SEQUENCE LISTING

<110> Genentech, Inc. Ashkenazi, Avi Botstein, David Desnoyers, Luc Eaton, Dan L. Ferrara, Napoleone Filvaroff, Ellen Fong, Sherman Gao, Wei-Qiang Gerber, Hanspeter Gerritsen, Mary E. Goddard, A. Godowski, Paul J. Grimaldi, Christopher J. Gurney, Austin L. Hillan, Kenneth, J. Kljavin, Ivar J. Mather, Jennie P. Pan, James Paoni, Nicholas F. Roy, Margaret Ann Stewart, Timothy A. Tumas, Daniel Williams, P. Mickey Wood, William, I.

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2197

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<213> Homo sapiens
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<213> Homo sapiens
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Thr Asp Gln Leu Ser Arg Arg Gln Ile Arg Glu Tyr Gln Leu Tyr Ser 35 40 45

Arg Thr Ser Gly Lys His Val Gln Val Thr Gly Arg Arg Ile Ser Ala 50 55 60

Thr Ala Glu Asp Gly Asn Lys Phe Ala Lys Leu Ile Val Glu Thr Asp 65 70 75 80

Thr Phe Gly Ser Arg Val Arg Ile Lys Gly Ala Glu Ser Glu Lys Tyr 85 90 95

Ile Cys Met Asn Lys Arg Gly Lys Leu Ile Gly Lys Pro Ser Gly Lys
100 105 110

Ser Lys Asp Cys Val Phe Thr Glu Ile Val Leu Glu Asn Asn Tyr Thr 115 120 125

Ala Phe Gln Asn Ala Arg His Glu Gly Trp Phe Met Ala Phe Thr Arg 130 135 140

Gln Gly Arg Pro Arg Gln Ala Ser Arg Ser Arg Gln Asn Gln Arg Glu 145 150 155 160

Ala His Phe Ile Lys Arg Leu Tyr Gln Gly Gln Leu Pro Phe Pro Asn 165 170 175

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<211> 28

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<222> (21)
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115

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acgtgcgggg tttcatgtgc caaggtcctg aacaagtccg ggggatggcc qtcaqqqaat 1320
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ccccaagtac agettetecg accaeteage eteceaecet etetatteca aaccetagea 1440
gaagetacae geeteeaact eetaceacat egaaacttee caegatteet gaetgggatg 1500
gcagagaaag agtgacccca cctatttctg aacggatcca gctctctatc cattttgtga 1560
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ataacgatca acteettaaa ggagatttea gactgeagee catttacace ceaaatgggg 2160
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<213> Homo sapiens
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Leu Leu Ala Cys Pro Ser Val Cys Arg Cys Asp Arg Asn Phe Val Tyr
Cys Asn Glu Arg Ser Leu Thr Ser Val Pro Leu Gly Ile Pro Glu Gly
     50
                         55
                                             60
Val Thr Val Leu Tyr Leu His Asn Asn Gln Ile Asn Asn Ala Gly Phe
Pro Ala Glu Leu His Asn Val Gln Ser Val His Thr Val Tyr Leu Tyr
Gly Asn Gln Leu Asp Glu Phe Pro Met Asn Leu Pro Lys Asn Val Arq
            100
Val Leu His Leu Gln Glu Asn Asn Ile Gln Thr Ile Ser Arg Ala Ala
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120

- Leu Ala Gln Leu Leu Lys Leu Glu Glu Leu His Leu Asp Asp Asn Ser 130 135 140
- Ile Ser Thr Val Gly Val Glu Asp Gly Ala Phe Arg Glu Ala Ile Ser 145 150 155 160
- Leu Lys Leu Leu Phe Leu Ser Lys Asn His Leu Ser Ser Val Pro Val
 165 170 175
- Gly Leu Pro Val Asp Leu Gln Glu Leu Arg Val Asp Glu Asn Arg Ile 180 185 190
- Ala Val Ile Ser Asp Met Ala Phe Gln Asn Leu Thr Ser Leu Glu Arg 195 200 205
- Leu Ile Val Asp Gly Asn Leu Leu Thr Asn Lys Gly Ile Ala Glu Gly 210 215 220
- Thr Phe Ser His Leu Thr Lys Leu Lys Glu Phe Ser Ile Val Arg Asn 225 230 235 240
- Ser Leu Ser His Pro Pro Pro Asp Leu Pro Gly Thr His Leu Ile Arg 245 250 255
- Leu Tyr Leu Gln Asp Asn Gln Ile Asn His Ile Pro Leu Thr Ala Phe 260 265 270
- Ser Asn Leu Arg Lys Leu Glu Arg Leu Asp Ile Ser Asn Asn Gln Leu 275 280 285
- Arg Met Leu Thr Gln Gly Val Phe Asp Asn Leu Ser Asn Leu Lys Gln 290 295 300
- Leu Thr Ala Arg Asn Asn Pro Trp Phe Cys Asp Cys Ser Ile Lys Trp 305 310 315 320
- Val Thr Glu Trp Leu Lys Tyr Ile Pro Ser Ser Leu Asn Val Arg Gly
 325 330 335
- Phe Met Cys Gln Gly Pro Glu Gln Val Arg Gly Met Ala Val Arg Glu
 340 345 350
- Leu Asn Met Asn Leu Leu Ser Cys Pro Thr Thr Thr Pro Gly Leu Pro 355 360 365
- Leu Phe Thr Pro Ala Pro Ser Thr Ala Ser Pro Thr Thr Gln Pro Pro 370 375 380
- Thr Leu Ser Ile Pro Asn Pro Ser Arg Ser Tyr Thr Pro Pro Thr Pro 385 390 395 400
- Thr Thr Ser Lys Leu Pro Thr Ile Pro Asp Trp Asp Gly Arg Glu Arg

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Ala	Tyr 450	Lys	Leu	Thr	Trp	Val 455	Lys	Met	Gly	His	Ser 460	Leu	Val	Gly	Gly
Ile 465	Val	Gln	Glu	Arg	Ile 470	Val	Ser	Gly	Glu	Lys 475	Gln	His	Leu	Ser	Leu 480
Vāl	Asn	Lėu	Glu	Pro 485	Arg	Ser	Thr	Tyr	Ārg 490	Ile	Ċys	Leu	Val	Pro 495	Leu
Asp	Ala	Phe	Asn 500	Tyr	Arg	Ala	Val	Glu 505	Asp	Thr	Ile	Cys	Ser 510	Glu	Ala
Thr	Thr	His 515	Ala	Ser	Tyr	Leu	Asn 520	Asn	Gly	Ser	Asn	Thr 525	Ala	Ser	Ser
His	Glu 530	Gln	Thr	Thr	Ser	His 535	Ser	Met	Gly	Ser	Pro 540	Phe	Leu	Leu	Ala
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Val	Phe	Cys	Trp	His 565	Met	His	Lys	Lys	Gly 570	Arg	Tyr	Thr	Ser	Gln 575	Lys
Trp	Lys	Tyr	Asn 580	Arg	Gly	Arg	Arg	Lys 585	Asp	Asp	Tyr	Cys	Glu 590	Ala	Gly
Thr	Lys	Lys 595	Asp	Asn	Ser	Ile	Leu 600	Glu	Met	Thr	Glu	Thr 605	Ser	Phe	Gln
Ile	Val 610	Ser	Leu ·	Asn	Asn	Asp 615	Gln	Leu	Leu	Lys	Gly 620	Asp	Phe	Arg	Leu
Gln 625	Pro	Ile	Tyr	Thr	Pro 630	Asn	Gly	Gly	Ile	Asn 635	Tyr	Thr	Asp	Cys	His 640
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	.> 21														
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<213> Artificial Sequence	
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<212> PRT

<213> Homo sapiens

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Ser Arg Gly Arg His Ala Arg Thr His Pro Gln Thr Ala Leu Leu Glu
35 40 45

Ser Ser Cys Glu Asn Lys Arg Ala Asp Leu Val Phe Ile Ile Asp Ser 50 55 60

Ser Arg Ser Val Asn Thr His Asp Tyr Ala Lys Val Lys Glu Phe Ile 65 70 75 80

Val Asp Ile Leu Gln Phe Leu Asp Ile Gly Pro Asp Val Thr Arg Val
85 90 95

Gly Leu Leu Gln Tyr Gly Ser Thr Val Lys Asn Glu Phe Ser Leu Lys 100 105 110

Thr Phe Lys Arg Lys Ser Glu Val Glu Arg Ala Val Lys Arg Met Arg 115 120 125

His Leu Ser Thr Gly Thr Met Thr Gly Leu Ala Ile Gln Tyr Ala Leu 130 135 140

Asn Ile Ala Phe Ser Glu Ala Glu Gly Ala Arg Pro Leu Arg Glu Asn 145 150 155 160

Val Pro Arg Val Ile Met Ile Val Thr Asp Gly Arg Pro Gln Asp Ser 165 170 175

Val Ala Glu Val Ala Ala Lys Ala Arg Asp Thr Gly Ile Leu Ile Phe 180 185 190

Ala Ile Gly Val Gly Gln Val Asp Phe Asn Thr Leu Lys Ser Ile Gly
195 200 205

Ser Glu Pro His Glu Asp His Val Phe Leu Val Ala Asn Phe Ser Gln 210 215 220

Ile Glu Thr Leu Thr Ser Val Phe Gln Lys Lys Leu Cys Thr Ala His

225					230					235					240
Met	Cys	Ser	Thr	Leu 245	Glu	His	Asn	Cys	Ala 250	His	Phe	Cys	Ile	Asn 255	Ile
Pro	Gly	Ser	T yr 260	Val	Cys	Arg	Cys	Lys 265	Gln	Gly	Tyr	Ile	Leu 270	Asn	Ser
Asp	Gln	Thr 275	Thr	Суѕ	Arg	Ile	Gln 280	Asp	Leu	Cys	Ala	Met 285	Glu	Asp	His
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Asn	Pro	Asp 355	Glu	Lys	Thr	Cys	Thr 360	Arg	Ile	Asn	Tyr	Cys 365	Ala	Leu	Asn
Lys	Pro 370	Gly	Cys	Glu	His	Glu 375	Cys	Val	Asn	Met	Glu 380	Glu	Ser	Tyr	Tyr
Cys 385	Arg	Cys	His	Arg	Gly 390	Tyr	Thr	Leu	Asp	Pro 395	Asn	Gly	Lys	Thr	Cys 400
Ser	Arg	Val	Asp	His 405	Cys	Ala	Gln	Gln	Asp 410	His	Gly	Cys	Glu	Gln 415	Leu
Cys	Leu	Asn	Thr 420	Glu	Asp	Ser	Phe	Val 425	Cys	Gln	Cys	Ser	Glu 430	Gly	Phe
Leu	Ile	Asn 435	Glu	Asp	Leu	Lys	Thr 440	Cys	Ser	Arg	Val	Asp 445	Tyr	Cys	Leu
Leu	Ser 450	Asp	His	Gly	Cys	Glu 455	Tyr	Ser	Cys	Val	Asn 460	Met	Asp	Arg	Ser
Phe 465	Ala	Cys	Gln	Cys	Pro 470	Glu	Gly	His	Val	Leu 475	Arg	Ser	Asp	Gly	Lys 480
Thr	Cys	Ala	Lys	Leu 485	Asp	Ser	Cys	Ala	Leu 490	Gly	Asp	His	Gly	Cys 495	Glu
His	Ser	Cys	Val 500	Ser	Ser	Glu	Asp	Ser 505	Phe	Val	Суз	Gln	Cys 510	Phe	Glu

- Gly Tyr Ile Leu Arg Glu Asp Gly Lys Thr Cys Arg Arg Lys Asp Val 515 520 525
- Cys Gln Ala Ile Asp His Gly Cys Glu His Ile Cys Val Asn Ser Asp 530 535 540
- Asp Ser Tyr Thr Cys Glu Cys Leu Glu Gly Phe Arg Leu Ala Glu Asp 545 550 555 560
- Gly Lys Arg Cys Arg Arg Lys Asp Val Cys Lys Ser Thr His His Gly
 565 570 575
- Cys Glu His Ile Cys Val Asn Asn Gly Asn Ser Tyr Ile Cys Lys Cys 580 585 590
- Ser Glu Gly Phe Val Leu Ala Glu Asp Gly Arg Arg Cys Lys Lys Cys
 595 600 605
- Thr Glu Gly Pro Ile Asp Leu Val Phe Val Ile Asp Gly Ser Lys Ser 610 620
- Leu Gly Glu Glu Asn Phe Glu Val Val Lys Gln Phe Val Thr Gly Ile 625 630 635 640
- Ile Asp Ser Leu Thr Ile Ser Pro Lys Ala Ala Arg Val Gly Leu Leu 645 650 655
- Gln Tyr Ser Thr Gln Val His Thr Glu Phe Thr Leu Arg Asn Phe Asn 660 665 670
- Ser Ala Lys Asp Met Lys Lys Ala Val Ala His Met Lys Tyr Met Gly 675 680 685
- Lys Gly Ser Met Thr Gly Leu Ala Leu Lys His Met Phe Glu Arg Ser 690 695 700
- Phe Thr Gln Gly Glu Gly Ala Arg Pro Leu Ser Thr Arg Val Pro Arg 705 710 715 720
- Ala Ala Ile Val Phe Thr Asp Gly Arg Ala Gln Asp Asp Val Ser Glu
 725 730 735
- Trp Ala Ser Lys Ala Lys Ala Asn Gly Ile Thr Met Tyr Ala Val Gly
 740 745 750
- Val Gly Lys Ala Ile Glu Glu Glu Leu Gln Glu Ile Ala Ser Glu Pro
 755 760 765
- Thr Asn Lys His Leu Phe Tyr Ala Glu Asp Phe Ser Thr Met Asp Glu 770 780
- Ile Ser Glu Lys Leu Lys Lys Gly Ile Cys Glu Ala Leu Glu Asp Ser 785 790 795 800

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Gln	Pro	Thr	Glu 820	Ser	Glu	Pro	Val	Thr 825	Ile	Asn	Ile	Gln	Asp 830	Leu	Leu	
Ser	Cys	Ser 835	Asn	Phe	Ala	Val	Gln 840	His	Arg	Tyr	Leu	Phe 845	Glu	Glu	Asp	
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Gly 865	Ser	Pro	Leu	Glu	Glu 870	Lys	His	Asp	Gln	Cys 875	Lys	Cys	Glu	Asn	Leu 880	
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Lys 225	Ala	His	Asn	Glu	Val 230	Gly	Thr	Ala	Gln	Cys 235	Asn	Val	Thr	Leu	Glu 240
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Pro	Pro	His	Gly	Pro 325	Pro	Arg	Pro	Gly	Ala 330	Leu	Thr	Pro	Thr	Pro 335	Ser		
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\Z13	' / AI	CILI	iciai	د عور	quem												
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Leu Thr Gln Ser Cys Gly Glu Asn Ala Asn Cys Thr Asn Thr Glu Gly

Ser Tyr Tyr Cys Met Cys Val Pro Gly Phe Arg Ser Ser Ser Asn Gln

Asp Arg Phe Ile Thr Asn Asp Gly Thr Val Cys Ile Glu Asn Val Asn 110

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Glu Val Tyr Arg Asn Ser Val Thr Asp Leu Ser Pro Thr Asp Ile Ile 145 150 155

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Ser	Val	Arg	Tyr 100	Leu	Cys	Met	Gly	Ala 105	Asp	Gly	Lys	Met	Gln 110	Gly	Leu	
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- Lys Asn Val Thr Arg Ser Asp Ala Gly Lys Tyr Arg Cys Glu Val Ser
- Ala Pro Ser Glu Gln Gly Gln Asn Leu Glu Glu Asp Thr Val Thr Leu 115 120 125
- Glu Val Leu Val Ala Pro Ala Val Pro Ser Cys Glu Val Pro Ser Ser 130 135 140
- Ala Leu Ser Gly Thr Val Val Glu Leu Arg Cys Gln Asp Lys Glu Gly 145 150 155 160
- Asn Pro Ala Pro Glu Tyr Thr Trp Phe Lys Asp Gly Ile Arg Leu Leu 165 170 175
- Glu Asn Pro Arg Leu Gly Ser Gln Ser Thr Asn Ser Ser Tyr Thr Met 180 185 190
- Asn Thr Lys Thr Gly Thr Leu Gln Phe Asn Thr Val Ser Lys Leu Asp 195 200 205
- Thr Gly Glu Tyr Ser Cys Glu Ala Arg Asn Ser Val Gly Tyr Arg Arg 210 215 220
- Cys Pro Gly Lys Arg Met Gln Val Asp Asp Leu Asn Ile Ser Gly Ile 225 230 235 240
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- Lys Lys Met Pro Gln Leu Leu Ser Val Tyr Leu Glu Glu Asn Lys Leu 115 120 125
- Thr Glu Leu Pro Glu Lys Cys Leu Ser Glu Leu Ser Asn Leu Gln Glu 130 135 140
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- Leu Gly Ile Asn Asn Met Pro Glu Leu Ile Ser Ile Asp Ser Leu Ala 290 295 300
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- Glu Ser Leu Met Leu Asn Ser Asn Ala Leu Ser Ala Leu Tyr His Gly

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Thr Cys Ser Asn Ala Asn Leu Lys Glu Ile Pro Arg Asp Leu Pro Pro 50 55 60

Glu Thr Val Leu Leu Tyr Leu Asp Ser Asn Gln Ile Thr Ser Ile Pro 65 70 75 80

Asn Glu Tle Phe Lys Asp Leu His Gln Leu Arg Val Leu Asn Leu Ser 85 90 95

Lys Asn Gly Ile Glu Phe Ile Asp Glu His Ala Phe Lys Gly Val Ala 100 105 110

Glu Thr Leu Gln Thr Leu Asp Leu Ser Asp Asn Arg Ile Gln Ser Val 115 120 125

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Ala Ser Asn His Glu Thr Ala His Asn Val Ile Cys Lys Thr Ser Val 165 170 175

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Thr Met Phe Gly Trp Phe Thr Met Val Ile Ser Tyr Val Val Tyr Tyr 210 215 220

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Leu Arg Val Leu Asn Val Ser Gly Asn Gln Leu Thr Thr Leu Glu Glu 340 345 350

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Arg Ala Gly Ala Glu Leu Arg Ala Val Leu Ala Leu Leu Arg Ala Gly
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Pro Gly Pro Gly Gly Ser Lys Asp Leu Leu Phe Trp Val Ala Leu 85 90 95

Glu Arg Arg Ser His Cys Thr Leu Glu Asn Glu Pro Leu Arg Gly
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Phe Ser Trp Leu Ser Ser Asp Pro Gly Gly Leu Glu Ser Asp Thr Leu 115 120 125

Gln Trp Val Glu Glu Pro Gln Arg Ser Cys Thr Ala Arg Arg Cys Ala 130 135 140

Val Leu Gln Ala Thr Gly Gly Val Glu Pro Ala Gly Trp Lys Glu Met
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Arg Cys His Leu Arg Ala Asn Gly Tyr Leu Cys Lys Tyr Gln Phe Glu 165 170 175

Val Leu Cys Pro Ala Pro Arg Pro Gly Ala Ala Ser Asn Leu Ser Tyr 180 185 190

Arg Ala Pro Phe Gln Leu His Ser Ala Ala Leu Asp Phe Ser Pro Pro 195 200 205

Gly Thr Glu Val Ser Ala Leu Cys Arg Gly Gln Leu Pro Ile Ser Val 210 215 220

Thr Cys Ile Ala Asp Glu Ile Gly Ala Arg Trp Asp Lys Leu Ser Gly 225 230 235 240

Asp Val Leu Cys Pro Cys Pro Gly Arg Tyr Leu Arg Ala Gly Lys Cys 245 250 255

Ala Glu Leu Pro Asn Cys Leu Asp Asp Leu Gly Gly Phe Ala Cys Glu 265 270

Cys Ala Thr Gly Phe Glu Leu Gly Lys Asp Gly Arg Ser Cys Val Thr 275 280 285

Ser Gly Glu Gly Gln Pro Thr Leu Gly Gly Thr Gly Val Pro Thr Arg 290 295 300

Arg Pro Pro Ala Thr Ala Thr Ser Pro Val Pro Gln Arg Thr Trp Pro 305 310 315 320

Ile Arg Val Asp Glu Lys Leu Gly Glu Thr Pro Leu Val Pro Glu Gln
325 330 335

Asp Asn Ser Val Thr Ser Ile Pro Glu Ile Pro Arg Trp Gly Ser Gln

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Pro	Arg_	Lys 435	_Glu	Ser	Met	Gly_	Pro.	Pro	Gly	Leu	Glu	Ser 445	Asp	Pro	Glu	
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Lys 465	Val	Gly	Asp	Cys	Asp 470	Leu	Arg	Asp	Arg	Ala 475	Glu	Gly	Ala	Leu	Leu 480	
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Phe Pro Gly Val Tyr Pro Pro Asn Ser Lys Cys Thr Trp Lys Ile Thr
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Val Pro Glu Gly Lys Val Val Leu Asn Phe Arg Phe Ile Asp Leu 65 70 75 80

Glu Ser Asp Asn Leu Cys Arg Tyr Asp Phe Val Asp Val Tyr Asn Gly

His Ala Asn Gly Gln Arg Ile Gly Arg Phe Cys Gly Thr Phe Arg Pro 100 105 110

Gly Ala Leu Val Ser Ser Gly Asn Lys Met Met Val Gln Met Ile Ser 115 120 125

Asp Ala Asn Thr Ala Gly Asn Gly Phe Met Ala Met Phe Ser Ala Ala 130 135 140

Glu Pro Asn Glu Arg Gly Asp Gln Tyr Cys Gly Gly Leu Leu Asp Arg 145 150 155 160

Pro Ser Gly Ser Phe Lys Thr Pro Asn Trp Pro Asp Arg Asp Tyr Pro 165 170 175

Ala Gly Val Thr Cys Val Trp His Ile Val Ala Pro Lys Asn Gln Leu 180 185 190

Ile Glu Leu Lys Phe Glu Lys Phe Asp Val Glu Arg Asp Asn Tyr Cys 195 200 205

Arg Tyr Asp Tyr Val Ala Val Phe Asn Gly Gly Glu Val Asn Asp Ala 210 215 220

Arg Arg Ile Gly Lys Tyr Cys Gly Asp Ser Pro Pro Ala Pro Ile Val 225 230 235 240

Ser Glu Arg Asn Glu Leu Leu Ile Gln Phe Leu Ser Asp Leu Ser Leu 245 250 255

Thr Ala Asp Gly Phe Ile Gly His Tyr Ile Phe Arg Pro Lys Lys Leu 260 265 270

Pro Thr Thr Glu Gln Pro Val Thr Thr Thr Phe Pro Val Thr Thr 275 280 285

Gly Leu Lys Pro Thr Val Ala Leu Cys Gln Gln Lys Cys Arg Arg Thr 290 295 300

Gly Thr Leu Glu Gly Asn Tyr Cys Ser Ser Asp Phe Val Leu Ala Gly 305 310 315

Thr Val Ile Thr Thr Ile Thr Arg Asp Gly Ser Leu His Ala Thr Val 325 330 335

Ser Ile Ile Asn Ile Tyr Lys Glu Gly Asn Leu Ala Ile Gln Gln Ala

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Asp G 385	Sly A	Arg	Gly	Lys	Ile 390	Met	Pro	Asn	Ser	Phe 395	Ile	Met	Met	Phe	Lys 400	
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<213> Homo sapiens

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<223> a, t, c or g
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Arg Gln Leu Gln Leu Lys Glu Val Pro Thr Leu Asp Arg Ala Asp Met
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                            40
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- Leu Gln Arg Ser His Gly Asp Arg Ser Arg Gly Lys Arg Phe Ser Gln 65 70 75 80
- Ser Phe Arg Glu Val Ala Gly Arg Phe Leu Ala Leu Glu Ala Ser Thr 85 90 95
- His Leu Leu Val Phe Gly Met Glu Gln Arg Leu Pro Pro Asn Ser Glu 100 105 110
- Leu Val Gln Ala Val Leu Arg Leu Phe Gln Glu Pro Val Pro Lys Ala 115 120 125
- Ala Leu His Arg His Gly Arg Leu Ser Pro Arg Ser Ala Arg Ala Arg 130 135 140
- Val Thr Val Glu Trp Leu Arg Val Arg Asp Asp Gly Ser Asn Arg Thr 145 150 155 160
- Ser Leu Ile Asp Ser Arg Leu Val Ser Val His Glu Ser Gly Trp Lys 165 170 175
- Ala Phe Asp Val Thr Glu Ala Val Asn Phe Trp Gln Gln Leu Ser Arg 180 185 190
- Pro Arg Gln Pro Leu Leu Gln Val Ser Val Gln Arg Glu His Leu 195 200 205
- Gly Pro Leu Ala Ser Gly Ala His Lys Leu Val Arg Phe Ala Ser Gln 210 215 220
- Gly Ala Pro Ala Gly Leu Gly Glu Pro Gln Leu Glu Leu His Thr Leu 225 230 235 240
- Asp Leu Gly Asp Tyr Gly Ala Gln Gly Asp Cys Asp Pro Glu Ala Pro 245 250 255
- Met Thr Glu Gly Thr Arg Cys Cys Arg Gln Glu Met Tyr Ile Asp Leu 260 265 270
- Gln Gly Met Lys Trp Ala Glu Asn Trp Val Leu Glu Pro Pro Gly Phe 275 280 285
- Leu Ala Tyr Glu Cys Val Gly Thr Cys Arg Gln Pro Pro Glu Ala Leu 290 295 300
- Ala Phe Lys Trp Pro Phe Leu Gly Pro Arg Gln Cys Ile Ala Ser Glu 305 310 315 320
- Thr Asp Ser Leu Pro Met Ile Val Ser Ile Lys Glu Gly Gly Arg Thr 325 330 335

Arg Pro Gln Val Val Ser Leu Pro Asn Met Arg Val Gln Lys Cys Ser 340 345 350											
Cys Ala Ser Asp Gly Ala Leu Val Pro Arg Arg Leu Gln Pro 355 360 365											
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<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe											
<400> 115 aggactgcca taacttgcct g	21										
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<400> 116 ataggagttg aagcagcgct gc	22										
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<212> PRT
<213> Homo sapiens
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Leu Ala Ile Leu Cys Ser Leu Ala Leu Gly Ser Val Thr Val His
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Ser Ser Glu Pro Glu Val Arq Ile Pro Glu Asn Asn Pro Val Lys Leu
         35
Ser Cys Ala Tyr Ser Gly Phe Ser Ser Pro Arg Val Glu Trp Lys Phe
Asp Gln Gly Asp Thr Thr Arg Leu Val Cys Tyr Asn Asn Lys Ile Thr
 65
                     70
                                         75
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Ala Ser Tyr Glu Asp Arg Val Thr Phe Leu Pro Thr Gly Ile Thr Phe

85

Lys Ser Val Thr Arg Glu Asp Thr Gly Thr Tyr Thr Cys Met Val Ser 100 105 110

Glu Glu Gly Gly Asn Ser Tyr Gly Glu Val Lys Val Lys Leu Ile Val 115 120 125

Leu Val Pro Pro Ser Lys Pro Thr Val Asn Ile Pro Ser Ser Ala Thr 130 135 140

Ile Gly Asn Arg Ala Val Leu Thr Cys Ser Glu Gln Asp Gly Ser Pro 145 150 155 160

Pro Ser Glu Tyr Thr Trp Phe Lys Asp Gly Ile Val Met Pro Thr Asn 165 170 175

Pro Lys Ser Thr Arg Ala Phe Ser Asn Ser Ser Tyr Val Leu Asn Pro 180 185 190

Thr Thr Gly Glu Leu Val Phe Asp Pro Leu Ser Ala Ser Asp Thr Gly
195 200 205

Glu Tyr Ser Cys Glu Ala Arg Asn Gly Tyr Gly Thr Pro Met Thr Ser 210 215 220

Asn Ala Val Arg Met Glu Ala Val Glu Arg Asn Val Gly Val Ile Val 225 230 235 240

Ala Ala Val Leu Val Thr Leu Ile Leu Leu Gly Ile Leu Val Phe Gly 245 250 255

Ile Trp Phe Ala Tyr Ser Arg Gly His Phe Asp Arg Thr Lys Lys Gly 260 265 270

Thr Ser Ser Lys Lys Val Ile Tyr Ser Gln Pro Ser Ala Arg Ser Glu 275 280 285

Gly Glu Phe Lys Gln Thr Ser Ser Phe Leu Val 290 295

<210> 120

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic oligonucleotide probe

<400> 120

tcgcggagct gtgttctgtt tccc

<210> 121

<211> 50

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<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
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<210> 123 <211> 24 <212> DNA <213> Artificial Sequence	
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<400> 123 taggaagagt tgctgaaggc acgg	24
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<400> 124 ttgccttact caggtgctac	20
<210> 125 <211> 20 <212> DNA <213> Artificial Sequence	
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oligonucleotide probe

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<400> 125
actcagcagt ggtaggaaag
                                                                   20
<210> 126
<211> 1210
<212> DNA
<213> Homo sapiens
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qcctqqaqqc cqccqcqaqc ccgctttcca ccccgacctc tgcccaggcc gcaggcccca 180
geteaqqete qtqcccaece accaaqttee aqtqccqcae cagtggetta tgcgtgcccc 240
tcacctggcg ctgcgacagg gacttggact gcagcgatgg cagcgatgag gaggagtgca 300
ggattgagcc atgtacccag aaagggcaat gcccaccgcc ccctggcctc ccctgcccct 360
quaccqqqqt caqtqactqc tetqqqqqaa etgacaagaa actgegcaac tgeageegce 420
tggcctgcct agcaggcgag ctccgttgca cgctgagcga tgactgcatt ccactcacgt 480
ggcgctgcga cggccaccca gactgtcccg actccagcga cgagctcggc tgtggaacca 540
atgagatect eceggaaggg gatgecaeaa ecatggggee eeetgtgaee etggagagtg 600
teacetetet caggaatgee acaaceatgg ggeeecetgt gaeeetggag agtgteecet 660
ctgtcgggaa tgccacatcc tcctctgccg gagaccagtc tggaagccca actgcctatg 720
gggttattgc agctgctgcg gtgctcagtg caagcctggt caccgccacc ctcctccttt 780
tgtcctggct ccgagcccag gagcgcctcc gcccactggg gttactggtg gccatgaagg 840
agtecetget getgteagaa cagaagaeet egetgeeetg aggacaagea ettgeeacea 900
ccgtcactca gccctgggcg tagccggaca ggaggagagc agtgatgcgg atgggtaccc 960
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aagttgcttc
<210> 127
<211> 282
<212> PRT
<213> Homo sapiens
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  1
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Leu Gly Leu Ala Leu Leu Leu Leu Gly Leu Gly Leu Gly Leu Glu
                                 25
Ala Ala Ala Ser Pro Leu Ser Thr Pro Thr Ser Ala Gln Ala Ala Gly
         35
                             40
Pro Ser Ser Gly Ser Cys Pro Pro Thr Lys Phe Gln Cys Arg Thr Ser
                         55
Gly Leu Cys Val Pro Leu Thr Trp Arg Cys Asp Arg Asp Leu Asp Cys
                     70
                                         75
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Ser Asp Gly Ser Asp Glu Glu Glu Cys Arg Ile Glu Pro Cys Thr Gln
85 90 95

Lys Gly Gln Cys Pro Pro Pro Pro Gly Leu Pro Cys Pro Cys Thr Gly
100 105 110

Val Ser Asp Cys Ser Gly Gly Thr Asp Lys Leu Arg Asn Cys Ser 115 120 125

Arg Leu Ala Cys Leu Ala Gly Glu Leu Arg Cys Thr Leu Ser Asp Asp 130 135 140

Cys Ile Pro Leu Thr Trp Arg Cys Asp Gly His Pro Asp Cys Pro Asp 145 150 155 160

Ser Ser Asp Glu Leu Gly Cys Gly Thr Asn Glu Ile Leu Pro Glu Gly
165 - 170 175

Asp Ala Thr Thr Met Gly Pro Pro Val Thr Leu Glu Ser Val Thr Ser 180 185 190

Leu Arg Asn Ala Thr Thr Met Gly Pro Pro Val Thr Leu Glu Ser Val
195 200 205

Pro Ser Val Gly Asn Ala Thr Ser Ser Ser Ala Gly Asp Gln Ser Gly 210 215 220

Ser Pro Thr Ala Tyr Gly Val Ile Ala Ala Ala Ala Val Leu Ser Ala 225 230 235 240

Ser Leu Val Thr Ala Thr Leu Leu Leu Leu Ser Trp Leu Arg Ala Gln 245 250 255

Glu Arg Leu Arg Pro Leu Gly Leu Leu Val Ala Met Lys Glu Ser Leu 260 265 270

Leu Leu Ser Glu Gln Lys Thr Ser Leu Pro 275 280

<210> 128

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide probe

<400> 128

aagttccagt gccgcaccag tggc

<210> 129

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<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 129
                                                                   24
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<210> 130
<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 130
gaggaggagt gcaggattga gccatgtacc cagaaagggc aatgcccacc
                                                                   50
<210> 131
<211> 1843
<212> DNA
<213> Homo sapiens
<220>
<221> modified base
<222> (1837)
<223> a, t, c or g
<400> 131
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cagactettg caagetggat geeetetgtg gatgaaagat gtateatgga atgaaceega 180
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cqqqcqqqtt cqatqacctt caaqtqtqtq ctqaccccqq cattcccqaq aatqqcttca 360
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gattcaagct gaagggcgct acaaagagac tgtgtttgaa gcattttaat ggaaccctag 480
qctqqatccc aaqtqataat tccatctqtq tqcaaqaaqa ttqccqtatc cctcaaatcq 540
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atgaaggatt caagatccgg taccccgacc tacacaatat ggtttcatta tgtcgcgatg 660
atggaacgtg gaataatctg cccatctgtc aaggetgeet gagaceteta geetetteta 720
atggetatgt aaacatetet gageteeaga eeteetteee ggtggggaet gtgateteet 780
ategetgett teeeggattt aaacttgatg ggtetgegta tettgagtge ttacaaaacc 840
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agcaaacgtg gcccagcacc catgagaccc tcctgaccac gtggaagatt gtggcgttca 1140
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ttgtggtggt agacggcgtg cccqtcatgc tcccqtccta tgacgaagct gtgagtggcg 1320
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gtttcttctt gacacagact gattaaaaat taaaagnaaa aaa
<210> 132
<211> 490
<212> PRT
<213> Homo sapiens
<400> 132
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Gln Gln Gln Gln Gln Pro Gln Ser Pro Gln Arg Leu Leu Ala Val
                                 25
Ile Leu Trp Phe Gln Leu Ala Leu Cys Phe Gly Pro Ala Gln Leu Thr
                             40
Gly Gly Phe Asp Asp Leu Gln Val Cys Ala Asp Pro Gly Ile Pro Glu
Asn Gly Phe Arg Thr Pro Ser Gly Gly Val Phe Phe Glu Gly Ser Val
Ala Arg Phe His Cys Gln Asp Gly Phe Lys Leu Lys Gly Ala Thr Lys
                 85
                                     90
Arg Leu Cys Leu Lys His Phe Asn Gly Thr Leu Gly Trp Ile Pro Ser
            100
                                105
Asp Asn Ser Ile Cys Val Glu Asp Cys Arg Ile Pro Gln Ile Glu
                            120
Asp Ala Glu Ile His Asn Lys Thr Tyr Arg His Gly Glu Lys Leu Ile
    130
Ile Thr Cys His Glu Gly Phe Lys Ile Arg Tyr Pro Asp Leu His Asn
Met Val Ser Leu Cys Arg Asp Asp Gly Thr Trp Asn Asn Leu Pro Ile
                165
                                    170
                                                        175
Cys Gln Gly Cys Leu Arg Pro Leu Ala Ser Ser Asn Gly Tyr Val Asn
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180 190 185 Ile Ser Glu Leu Gln Thr Ser Phe Pro Val Gly Thr Val Ile Ser Tyr 195 200 Arg Cys Phe Pro Gly Phe Lys Leu Asp Gly Ser Ala Tyr Leu Glu Cys 215 Leu Gln Asn Leu Ile Trp Ser Ser Pro Pro Arg Cys Leu Ala Leu 230 235 Glu Ala Gln Val Cys Pro Leu Pro Pro Met Val Ser His Gly Asp Phe Val Cys His Pro Arg Pro Cys Glu Arg Tyr Asn His Gly Thr Val Val Glu Phe Tyr Cys Asp Pro Gly Tyr Ser Leu Thr Ser Asp Tyr Lys Tyr 275 280 Ile Thr Cys Gln Tyr Gly Glu Trp Phe Pro Ser Tyr Gln Val Tyr Cys Ile Lys Ser Glu Gln Thr Trp Pro Ser Thr His Glu Thr Leu Leu Thr 310 315 Thr Trp Lys Ile Val Ala Phe Thr Ala Thr Ser Val Leu Leu Val Leu 325 Leu Leu Val Ile Leu Ala Arg Met Phe Gln Thr Lys Phe Lys Ala His Phe Pro Pro Arg Gly Pro Pro Arg Ser Ser Ser Asp Pro Asp Phe 355 360 365 Val Val Val Asp Gly Val Pro Val Met Leu Pro Ser Tyr Asp Glu Ala Val Ser Gly Gly Leu Ser Ala Leu Gly Pro Gly Tyr Met Ala Ser Val 395 Gly Gln Gly Cys Pro Leu Pro Val Asp Asp Gln Ser Pro Pro Ala Tyr Pro Gly Ser Gly Asp Thr Asp Thr Gly Pro Gly Glu Ser Glu Thr Cys 425 Asp Ser Val Ser Gly Ser Ser Glu Leu Leu Gln Ser Leu Tyr Ser Pro 435 440 445 Pro Arg Cys Gln Glu Ser Thr His Pro Ala Ser Asp Asn Pro Asp Ile 450 455 460

Ile Ala Ser Thr Ala Glu Glu Val Ala Ser Thr Ser Pro Gly Ile His 465 470 475 480	
His Ala His Trp Val Leu Phe Leu Arg Asn 485 490	
<210> 133 <211> 23 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<pre><400> 133 atctcctatc getgetttec egg</pre>	23
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<pre><400> 134 agccaggatc gcagtaaaac tcc</pre>	23
<210> 135 <211> 50 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400> 135 atttaaactt gatgggtctg cgtatcttga gtgcttacaa aaccttatct	50
<210> 136 <211> 1815 <212> DNA <213> Homo sapiens	
<pre><400> 136 cccacgcgtc cgctccgcgc cctccccccc gcctcccgtg cggtccgtcg gtggcctaga cgatgctgctg ccgcggttgc agttgtcgcg cacgcctctg cccgcagcc cgctccaccg ccgtagcgcc cgagtgtcgg ggggcgcacc cgagtcgggc catgaggccg ggaaccgcgc tacaggccgt gctgctgcg gtgctgctgg tggggctgcg ggccgcgacg ggtcgcctgc tgagtgcctc ggatttggac ctcagaggag ggcagccagt ctgccggga gggacacaga ccgagtgcctc</pre>	120 180 240

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ccaaagaagc ctgcaggagg gatggaggcc agctagtcag catcgagtct gaagatgaac 420
agaaactgat agaaaagttc attgaaaacc tcttgccatc tgatggtgac ttctggattg 480
ggctcaggag gcqtgaggag aaacaaagca atagcacagc ctgccaggac ctttatgctt 540
ggactgatgg cagcatatca caatttagga actggtatgt ggatgagccg tcctgcggca 600
gcgaggtctg cgtggtcatg taccatcagc catcggcacc cgctggcatc ggaggcccct 660
acatgttcca gtggaatgat gaccggtgca acatgaagaa caatttcatt tgcaaatatt 720
ctgatgagaa accagcagtt ccttctagag aagctgaagg tgaggaaaca gagctgacaa 780
cacctgtact tccagaagaa acacaggaag aagatgccaa aaaaacattt aaagaaagta 840
gagaagetge ettgaatetg geetacatee taateeecag catteeeett eteeteetee 900
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tgagegtgga gagtggattt gtgaccaatg acatttatga gttctcccca gaccaaatgg 1260
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qqaaaataca caqaaqqtct atgaacaagc ttagatcagg tcctgtggat gagcatgtgg 1440
tececaegae etectgttgg acceecaegt tttggetgta teetttatee eagecagtea 1500
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agcaggaaaa aaaaa
                                                                   1815
<210> 137
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<212> PRT
<213> Homo sapiens
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Val Gly Leu Arg Ala Ala Thr Gly Arg Leu Leu Ser Ala Ser Asp Leu
                                 25
Asp Leu Arg Gly Gly Gln Pro Val Cys Arg Gly Gly Thr Gln Arg Pro
         35
Cys Tyr Lys Val Ile Tyr Phe His Asp Thr Ser Arg Arg Leu Asn Phe
Glu Glu Ala Lys Glu Ala Cys Arg Arg Asp Gly Gly Gln Leu Val Ser
Ile Glu Ser Glu Asp Glu Gln Lys Leu Ile Glu Lys Phe Ile Glu Asn
Leu Leu Pro Ser Asp Gly Asp Phe Trp Ile Gly Leu Arg Arg Alg Glu
```

105

Glu Lys Gln Ser Asn Ser Thr Ala Cys Gln Asp Leu Tyr Ala Trp Thr 120 Asp Gly Ser Ile Ser Gln Phe Arg Asn Trp Tyr Val Asp Glu Pro Ser 135 Cys Gly Ser Glu Val Cys Val Val Met Tyr His Gln Pro Ser Ala Pro 150 Ala Gly Ile Gly Gly Pro Tyr Met Phe Gln Trp Asn Asp Asp Arg Cys Asn Met Lys Asn Asn Phe Ile Cys Lys Tyr Ser Asp Glu Lys Pro Ala 180 Val Pro Ser Arg Glu Ala Glu Gly Glu Glu Thr Glu Leu Thr Thr Pro 200 ... 205.... Val Leu Pro Glu Glu Thr Gln Glu Glu Asp Ala Lys Lys Thr Phe Lys 215 Glu Ser Arg Glu Ala Ala Leu Asn Leu Ala Tyr Ile Leu Ile Pro Ser 225 Ile Pro Leu Leu Leu Leu Val Val Thr Thr Val Val Cys Trp Val 245 250 Trp Ile Cys Arg Lys Arg Lys Arg Glu Gln Pro Asp Pro Ser Thr Lys Lys Gln His Thr Ile Trp Pro Ser Pro His Gln Gly Asn Ser Pro Asp Leu Glu Val Tyr Asn Val Ile Arg Lys Gln Ser Glu Ala Asp Leu Ala 295 300 Glu Thr Arg Pro Asp Leu Lys Asn Ile Ser Phe Arg Val Cys Ser Gly 310 Glu Ala Thr Pro Asp Asp Met Ser Cys Asp Tyr Asp Asn Met Ala Val 330 Asn Pro Ser Glu Ser Gly Phe Val Thr Leu Val Ser Val Glu Ser Gly 340

Phe Val Thr Asn Asp Ile Tyr Glu Phe Ser Pro Asp Gln Met Gly Arg

Ser Lys Glu Ser Gly Trp Val Glu Asn Glu Ile Tyr Gly Tyr 370 375 380

<210> 138

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<211> 50
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 138
                                                                   50
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<210> 139
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 139
                                                                   24
aagccaaaga agcctgcagg aggg
<210> 140
<211> 24
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 140
                                                                   24
cagtccaagc ataaaggtcc tggc
<210> 141
<211> 1514
<212> DNA
<213> Homo sapiens
<400> 141
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gcatccgcag gttcccgcgg acttgggggc gcccgctgag ccccggcgcc cgcagaagac 120
ttgtgtttgc ctcctgcagc ctcaacccgg agggcagcga gggcctacca ccatgatcac 180
tggtgtgttc agcatgcgct tgtggacccc agtgggcgtc ctgacctcgc tggcgtactg 240
cctgcaccag cggcggttgg ccctggccga gctgcaggag gccgatggcc agtgtccggt 300
cgaccgcagc ctgctgaagt tgaaaatggt gcaggtcgtg tttcgacacg gggctcggag 360
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Asn Lys Ser Arg Tyr Pro Pro Leu Ile Val Gln Pro Cys Ser Glu Val 145 150 155 160

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His His Pro Pro Asp Asp Ser Ala Leu Cys Ala Phe Pro Ile Arg Ala
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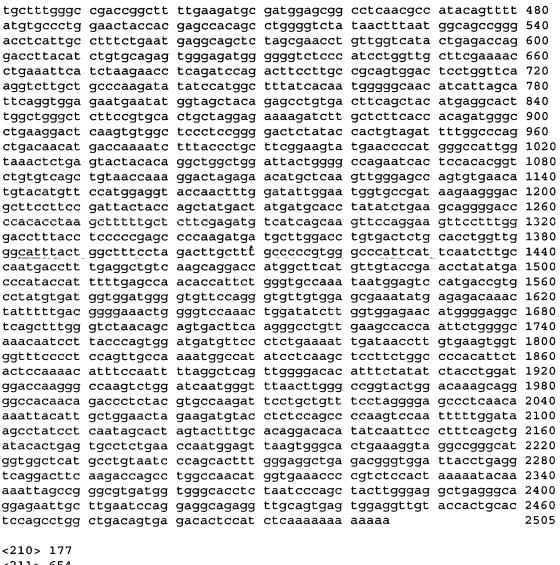
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Val Ser Gly Ser Leu His Tyr Phe Arg Val Pro Arg Val Leu Trp Ala 50 55 60 Asp Arg Leu Leu Lys Met Arg Trp Ser Gly Leu Asn Ala Ile Gln Phe 65 70 75 80

Tyr Val Pro Trp Asn Tyr His Glu Pro Gln Pro Gly Val Tyr Asn Phe
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Lys Cys Gly Ser Leu Arg Gly Leu Tyr Thr Thr Val Asp Phe Gly Pro 225 230 235

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- Ser Val Pro Ser Phe Gly Ser Glu Trp Phe Trp Trp Tyr Trp Gln Lys
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- Glu Lys Ile Pro Lys Tyr Val Glu Phe Met Lys Asp Asn Tyr Pro Pro 85 90 95
- Ser Phe Lys Tyr Glu Asp Phe Gly Pro Leu Phe Thr Ala Lys Phe Phe 100 105 110
- Asn Ala Asn Gln Trp Ala Asp Ile Phe Gln Ala Ser Gly Ala Lys Tyr 115 120 125
- Ile Val Leu Thr Ser Lys His His Glu Gly Phe Thr Leu Trp Gly Ser 130 135 140
- Glu Tyr Ser Trp Asn Trp Asn Ala Ile Asp Glu Gly Pro Lys Arg Asp 145 150 155 160
- Ile Val Lys Glu Leu Glu Val Ala Ile Arg Asn Arg Thr Asp Leu Arg
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- Phe Gly Leu Tyr Tyr Ser Leu Phe Glu Trp Phe His Pro Leu Phe Leu 180 185 190
- Glu Asp Glu Ser Ser Ser Phe His Lys Arg Gln Phe Pro Val Ser Lys
 195 200 205
- Thr Leu Pro Glu Leu Tyr Glu Leu Val Asn Asn Tyr Gln Pro Glu Val 210 215 220
- Leu Trp Ser Asp Gly Asp Gly Gly Ala Pro Asp Gln Tyr Trp Asn Ser 225 230 235 240
- Thr Gly Phe Leu Ala Trp Leu Tyr Asn Glu Ser Pro Val Arg Gly Thr
 245 250 255
- Val Val Thr Asn Asp Arg Trp Gly Ala Gly Ser Ile Cys Lys His Gly 260 265 270
- Gly Phe Tyr Thr Cys Ser Asp Arg Tyr Asn Pro Gly His Leu Leu Pro 275 280 285
- His Lys Trp Glu Asn Cys Met Thr Ile Asp Lys Leu Ser Trp Gly Tyr 290 295 300
- Arg Arg Glu Ala Gly Ile Ser Asp Tyr Leu Thr Ile Glu Glu Leu Val 305 310 315 320
- Lys Gln Leu Val Glu Thr Val Ser Cys Gly Gly Asn Leu Leu Met Asn 325 330 335

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Glu Th	_	Thr	Trp	Arg	Ser 375	Gln	Asn	Asp	Thr	Val 380	Thr	Pro	Asp	Val	
Trp Ty 385	r Thr	Ser	Lys	Pro 390	Lys	Glu	Lys	Leu	Val 395	Tyr	Ala	Ile	Phe	Leu 400	
Lys Tr	p Pro	Thr	Ser 405	Gly	Gln	Leu	Phe	Leu 410	Gly	His	Pro	Lys	Ala 415	Ile	
Leu Gl	y_Ala	Thr 420	Glu	Val	Lys	Leu	Leu 425	Gly	His	Gly	Gln	Pro 430	Leu	Asn	
Trp Il	e Ser 435		Glu	Gln	Asn	Gly 440	Ile	Met	Val	Glu	Leu 445	Pro	Gln	Leu	
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Gln Val Ser Cys Arg Ile Met Gly Ile Thr Leu Val Ser Lys Lys Ala
                             40
Asn Gln Gln Leu Asn Phe Thr Glu Ala Lys Glu Ala Cys Arg Leu Leu
     50
                         55
Gly Leu Ser Leu Ala Gly Lys Asp Gln Val Glu Thr Ala Leu Lys Ala
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Ser Phe Glu Thr Cys Ser Tyr Gly Trp Val Gly Asp Gly Phe Val Val
                 85
                                     90
Ile Ser Arg Ile Ser Pro Asn Pro Lys Cys Gly Lys Asn Gly Val Gly
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Val Leu Ile Trp Lys Val Pro Val Ser Arg Gln Phe Ala Ala Tyr Cys
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Tyr Asn Ser Ser Asp Thr Trp Thr Asn Ser Cys Ile Pro Glu Ile Ile
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Leu Pro Thr Gln Arq Glu Asp Gly Asn Pro Cys Asp Phe Asp Trp Arg
Glu Val Glu Ile Leu Met Phe Leu Ser Ala Ile Val Met Met Lys Asn
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                     70
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Ser Lys Val Ala Asn Thr Ile Leu Phe Phe Arg Leu Asp Ile Arg Met
100 105 110

Gly Leu Leu Tyr Ile Thr Leu Cys Ile Val Phe Leu Met Thr Cys Lys 115 120 125

Pro Pro Leu Tyr Met Gly Pro Glu Tyr Ile Lys Tyr Phe Asn Asp Lys 130 135 140

Thr Ile Asp Glu Glu Leu Glu Arg Asp Lys Arg Val Thr Trp Ile Val 145 150 155 160

Glu Phe Phe Ala Asn Trp Ser Asn Asp Cys Gln Ser Phe Ala Pro Ile 165 170 175

Tyr Ala Asp Leu Ser Leu Lys Tyr Asn Cys Thr Gly Leu Asn Phe Gly
180 185 190

Lys Val Asp Val Gly Arg Tyr Thr Asp Val Ser Thr Arg Tyr Lys Val 195 200 205

Ser Thr Ser Pro Leu Thr Lys Gln Leu Pro Thr Leu Ile Leu Phe Gln 210 215 220

Gly Gly Lys Glu Ala Met Arg Arg Pro Gln Ile Asp Lys Lys Gly Arg 225 230 235 240

Ala Val Ser Trp Thr Phe Ser Glu Glu Asn Val Ile Arg Glu Phe Asn 245 250 255

Leu Asn Glu Leu Tyr Gln Arg Ala Lys Lys Leu Ser Lys Ala Gly Asp 260 265 270

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<212> DNA

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<223> Description of Artificial Sequence: Synthetic oligonucleotide probe

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<223> Description of Artificial Sequence: Synthetic
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<400> 210
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Leu Val Val Glu Thr Pro Glu Glu Thr Leu Phe Thr Tyr Gln Gly Ala
Ser Val Ile Leu Pro Cys Arg Tyr Arg Tyr Glu Pro Ala Leu Val Ser
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105

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Leu	Glu	Leu	Arg	Gly 165	Val	Val	Phe	Pro	Tyr 170	Gln	Ser	Pro	Asn	Gly 175	Arg
Tyr	Gln	Phe	Asn 180	Phe	His	Glu	Gly	Gln 185	Gln	Val	Cys	Ala	Glu 190	Gln	Ala
Ala	Val	Val 195	Ala	Ser	Phe	Glu	Gln 200	Leu	Phe	Arg	Ala	Trp 205	Glu	Glu	Gly
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Pro 225	Ile	Met	Leu	Pro	Arg 230	Gln	Pro	Cys	Gly	Gly 235	Pro	Gly	Leu	Ala	Pro 240
Gly	Val	Arg	Ser	Tyr 245	Gly	Pro	Arg	His	Arg 250	Arg	Leu	His	Arg	Tyr 255	Asp
Val	Phe	Cys	Phe 260	Ala	Thr	Ala	Leu	Lys 265	Gly	Arg	Val	Tyr	Tyr 270	Leu	Glu
His	Pro	Glu 275	Lys	Leu	Thr	Leu	Thr 280	Glu	Ala	Arg	Glu	Ala 285	Cys	Gln	Glu
Asp	Asp 290	Ala	Thr	Ile	Ala	Lys 295	Val	Gly	Gln	Leu	Phe 300	Ala	Ala	Trp	Lys
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Val	Arg	Tyr	Pro	Val 325	Val	His	Pro		Pro 330	Asn	Cys	Gly	Pro	Pro 335	Glu
Pro	Gly	Val	Arg 340	Ser	Phe	Gly	Phe	Pro 345	Asp	Pro	Gln	Ser	Arg 350	Leu	Tyr
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Ile Pro Glu Glu Leu Gly Met Val Gln Asp Val Thr Phe Val Asp Lys 305 310 315 320

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Phe Gly Thr Thr Lys Tyr Val Lys Pro Leu Val Gln Lys Leu Cys Thr 340 345 350

His Glu Gln Met Met Cys Ser Lys Thr Cys Tyr Asn Ser Val Asn Ile 355 360 365

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Asp Val Gln Gly Pro Ala Ala Ala Ala His Asp Ala Gly Ile Thr Ile 485 490 495

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Cys His Asp Pro Ala Ser Arg Leu Leu Asp Leu Ile Thr Trp Glu Leu 245 250 255

Glu Pro Asp Gly Ala Leu Asp Arg Cys Pro Cys Ala Ser Gly Leu Leu 260 265 270

Cys Gln Pro His Ser His Ser Leu Val Tyr Val Cys Lys Pro Thr Phe 275 280 285

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Ser Tyr Arg Glu Ala Thr Thr Val Asp Cys Asn Asp Leu Phe Leu

Thr Ala Val Pro Pro Ala Leu Pro Ala Gly Thr Gln Thr Leu Leu

Leu Gln Ser Asn Ser Ile Val Arg Val Asp Gln Ser Glu Leu Gly 80

Tyr Leu Ala Asn Leu Thr Glu Leu Asp Leu Ser Gln Asn Ser Phe

Ser Asp Ala Arg Asp Cys Asp Phe His Ala Leu Pro Gln Leu Leu 120 110 115

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Ser Ile Arg Glu Glu Ser Ser Tyr Ser Asp Ile Pro Asp Val Lys

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20 25 30

Trp Pro Thr Glu Glu Gly Lys Glu Val Trp Asp Tyr Val Thr Val

Arg Lys Asp Ala Tyr Met Phe Trp Trp Leu Tyr Tyr Ala Thr Asn Ser Cys Lys Asn Phe Ser Glu Leu Pro Leu Val Met Trp Leu Gln Gly Gly Pro Gly Gly Ser Ser Thr Gly Phe Gly Asn Phe Glu Glu 85 Ile Gly Pro Leu Asp Ser Asp Leu Lys Pro Arg Lys Thr Thr Trp Leu Gln Ala Ala Ser Leu Leu Phe Val Asp Asn Pro Val Gly Thr 115 120 110 Gly Phe Ser Tyr Val Asn Gly Ser Gly Ala Tyr Ala Lys Asp Leu Ala Met Val Ala Ser Asp Met Met Val Leu Leu Lys Thr Phe Phe Ser Cys His Lys Glu Phe Gln Thr Val Pro Phe Tyr Ile Phe Ser 165 155 160 Glu Ser Tyr Gly Gly Lys Met Ala Ala Gly Ile Gly Leu Glu Leu Tyr Lys Ala Ile Gln Arg Gly Thr Ile Lys Cys Asn Phe Ala Gly Val Ala Leu Gly Asp Ser Trp Ile Ser Pro Val Asp Ser Val Leu 200 Ser Trp Gly Pro Tyr Leu Tyr Ser Met Ser Leu Leu Glu Asp Lys Gly Leu Ala Glu Val Ser Lys Val Ala Glu Gln Val Leu Asn Ala 240 230 235 Val Asn Lys Gly Leu Tyr Arg Glu Ala Thr Glu Leu Trp Gly Lys Ala Glu Met Ile Ile Glu Gln Asn Thr Asp Gly Val Asn Phe Tyr 260 Asn Ile Leu Thr Lys Ser Thr Pro Thr Ser Thr Met Glu Ser Ser 275 285 280 Leu Glu Phe Thr Gln Ser His Leu Val Cys Leu Cys Gln Arg His Val Arg His Leu Gln Arg Asp Ala Leu Ser Gln Leu Met Asn Gly

	305		310	315
Pro Ile Arg L	ys Lys Leu 320	Lys Ile Ile	Pro Glu Asp 325	Gln Ser Trp 330
Gly Gly Gln A	la Thr Asn 335	Val Phe Va	Asn Met Glu 340	Glu Asp Phe 345
Met Lys Pro V	al Ile Ser 350	Ile Val Ası	Glu Leu Leu 355	Glu Ala Gly 360
Ile Asn Val T	hr Val Tyr 365	Asn Gly Gli	1 Leu Asp Leu 370	Ile Val Asp 375
Thr Met Gly G	ln Glu Ala 380	Trp Val Arg	g Lys Leu Lys 385	Trp Pro Glu 390
Leu Pro Lys P	he-Ser Gln 395	Leu Lys Tr	bys Ala Leu 400	Tyr Ser Asp 405
Pro Lys Ser L	eu Glu Thr 410	Ser Ala Phe	e Val Lys Ser 415	Tyr Lys Asn 420
Leu Ala Phe T	yr Trp Ile 425	Leu Lys Ala	a Gly His Met 430	Val Pro Ser 435
Asp Gln Gly A	sp Met Ala 440	Leu Lys Met	Met Arg Leu 445	Val Thr Gln 450
Gln Glu				

<210> 256 <211> 1100

<212> DNA

<213> Homo Sapien

<400> 256

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tgctgctggc tcgggctgga ctcaggaagc cggagtcgca ggaggcggcg 100
ccgttatcag gaccatgcgg ccgacgggtc atcacgtcgc gcatcgtggg 150
tggagaggac gccgaactcg ggcgttggcc gtggcagggg agcctgcgcc 200
tgtgggattc ccacgtatgc ggagtgagcc tgctcagcca ccgctgggca 250
ctcacggcgg cgcactgctt tgaaacctat agtgacctta gtgatccctc 300
cgggtggatg gtccagtttg gccagctgac ttccatgcca tccttctgga 350
gcctgcaggc ctactacacc cgttacttcg tatcgaatat ctatctgagc 400

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<210> 257

<211> 314

<212> PRT

<213> Homo Sapien

<400> 257

Met Gly Ala Arg Gly Ala Leu Leu Leu Ala Leu Leu Leu Ala Arg
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Ala Gly Leu Arg Lys Pro Glu Ser Gln Glu Ala Ala Pro Leu Ser

20 25 30

Gly Pro Cys Gly Arg Arg Val Ile Thr Ser Arg Ile Val Gly Gly 35 40 45

Glu Asp Ala Glu Leu Gly Arg Trp Pro Trp Gln Gly Ser Leu Arg
50 55 60

Leu Trp Asp Ser His Val Cys Gly Val Ser Leu Leu Ser His Arg
65 70 75

Trp Ala Leu Thr Ala Ala His Cys Phe Glu Thr Tyr Ser Asp Leu

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Ser Asp Pro Ser Gly Trp Met Val Gln Phe Gly Gln Leu Thr Ser
                                                         105
                 95
Met Pro Ser Phe Trp Ser Leu Gln Ala Tyr Tyr Thr Arg Tyr Phe
                110
                                     115
Val Ser Asn Ile Tyr Leu Ser Pro Arg Tyr Leu Gly Asn Ser Pro
                                     130
Tyr Asp Ile Ala Leu Val Lys Leu Ser Ala Pro Val Thr Tyr Thr
Lys His Ile Gln Pro Ile Cys Leu Gln Ala Ser Thr Phe Glu Phe
                155
                                     160
Glu Asn Arg Thr Asp Cys Trp Val Thr Gly Trp Gly Tyr Ile Lys
                170
                                     175
Glu Asp Glu Ala Leu Pro Ser Pro His Thr Leu Gln Glu Val Gln
                185
Val Ala Ile Ile Asn Asn Ser Met Cys Asn His Leu Phe Leu Lys
                200
                                     205
Tyr Ser Phe Arg Lys Asp Ile Phe Gly Asp Met Val Cys Ala Gly
Asn Ala Gln Gly Gly Lys Asp Ala Cys Phe Gly Asp Ser Gly Gly
Pro Leu Ala Cys Asn Lys Asn Gly Leu Trp Tyr Gln Ile Gly Val
                                                         255
                245
                                     250
Val Ser Trp Gly Val Gly Cys Gly Arg Pro Asn Arg Pro Gly Val
Tyr Thr Asn Ile Ser His His Phe Glu Trp Ile Gln Lys Leu Met
                                     280
                275
Ala Gln Ser Gly Met Ser Gln Pro Asp Pro Ser Trp Pro Leu Leu
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                                                         300
Phe Phe Pro Leu Leu Trp Ala Leu Pro Leu Leu Gly Pro Val
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<210> 258

<211> 2427

<212> DNA

<213> Homo Sapien

<400> 258

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tgatggctac tgggtggtca gcaacagagt gcccattcca tgggtgtccg 1450 gaacctegge etetaeteea gtgtttgggg ggateetate ettgateaat 1500 gagcacagga tccttagtgg ccgccccct cttggctttc tcaacccaag 1550 qctctaccaq caqcatqqqq caggtctctt tgatgtaacc cgtggctgcc 1600 atgagteetg tetggatgaa gaggtagagg geeagggttt etgetetggt 1650 cctggctggg atcctgtaac aggctgggga acaccaactt cccagctttg 1700 ctgaagactc tactcaaccc ctgacccttt cctatcagga gagatggctt 1750 gtoccotgoc otgaagotgg cagttoagto cottattotg cootgttgga 1800 agecetgetg aacceteaac tattgactge tgeagacage ttateteeet 1850 aaccetgaaa tgetgtgage ttgaettgae teecaaceet accatgetee 1900 atcatactca ggtctcccta ctcctgcctt agattcctca ataagatgct 1950 gtaactagca ttttttgaat gcctctccct ccgcatctca tctttctctt 2000 ttcaatcagg cttttccaaa gggttgtata cagactctgt gcactatttc 2050 acttgatatt cattccccaa ttcactgcaa ggagacctct actgtcaccg 2100 tttactcttt cctaccctga catccagaaa caatggcctc cagtgcatac 2150 ttctcaatct ttqctttatq qcctttccat cataqttqcc cactccctct 2200 ccttacttag cttccaggtc ttaacttctc tgactactct tgtcttcctc 2250 totoatoaat ttotgottot toatggaatg otgacottoa ttgotocatt 2300 tgtagatttt tgctcttctc agtttactca ttgtcccctg gaacaaatca 2350 ctgacatcta caaccattac catctcacta aataagactt tctatccaat 2400 aatgattgat acctcaaatg taaaaaa 2427

Ser Gly Lys Cys Ser Tyr Ser Pro Glu Pro Asp Gln Arg Arg Thr

<210> 259

<211> 556

<212> PRT

<213> Homo Sapien

<400> 259

Met Gly Leu Gln Ala Cys Leu Leu Gly Leu Phe Ala Leu Ile Leu
1 5 10 15

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Leu	Pro	Pro	Gly	Trp 35	Val	Ser	Leu	Gly	Arg 40	Ala	Asp	Pro	Glu	Glu 45
Glu	Leu	Ser	Leu	Thr 50	Phe	Ala	Leu	Arg	Gln 55	Gln	Asn	Val	Glu	Arg 60
Leu	Ser	Glu	Leu	Val 65	Gln	Ala	Val	Ser	Asp 70	Pro	Ser	Ser	Pro	Gln 75
Tyr	Gly	Lys	Tyr	Leu 80	Thr	Leu	Glu	Asn	Val 85	Ala	Asp	Leu	Val	Arg 90
Pro	Ser	Pro	Leu	Thr 95	Leu	His	Thr	Val	Gln 100	Lys	Trp	Leu	Leu	Ala 105
Ala	Gly	Ala	Gln	Lys 110	Cys	His	Ser	Val	Ile 115	Thr	Gln	Asp	Phe	Leu 120
Thr	Cys	Trp	Leu	Ser 125	Ile	Arg	Gln	Ala	Glu 130	Leu	Leu	Leu	Pro	Gly 135
Ala	Glu	Phe	His	His 140	Tyr	Val	Gly	Gly	Pro 145	Thr	Glu	Thr	His	Val 150
Val	Arg	Ser	Pro	His 155	Pro	Tyr	Gln	Leu	Pro 160	Gln	Ala	Leu	Ala	Pro 165
His	Val	Asp	Phe	Val 170	Gly	Gly	Leu	His	Arg 175	Phe	Pro	Pro	Thr	Ser 180
Ser	Leu	Arg	Gln	Arg 185	Pro	Glu	Pro	Gln	Val 190	Thr	Gly	Thr	Val	Gly 195
Leu	His	Leu	Gly	Val 200	Thr	Pro	Ser	Val	Ile 205	Arg	Lys	Arg	Tyr	Asn 210
Leu	Thr	Ser	Gln	Asp 215	Val	Gly	Ser	Gly	Thr 220	Ser	Asn	Asn	Ser	Gln 225
Ala	Cys	Ala	Gln	Phe 230	Leu	Glu	Gln	Tyr	Phe 235	His	Asp	Ser	Asp	Leu 240
Ala	Gln	Phe	Met	Arg 245	Leu	Phe	Gly	Gly	Asn 250	Phe	Ala	His	Gln	Ala 255
Ser	Val	Ala	Arg	Val 260	Val	Gly	Gln	Gln	Gly 265	Arg	Gly	Arg	Ala	Gly 270
Ile	Glu	Ala	Ser	Leu 275	Asp	Val	Gln	Tyr	Leu 280	Met	Ser	Ala	Gly	Ala 285

Asn	Ile	Ser	Thr	Trp 290	Val	Tyr	Ser	Ser	Pro 295	Gly	Arg	His	Glu	Gly 300
Gln	Glu	Pro	Phe	Leu 305	Gln	Trp	Leu	Met	Leu 310	Leu	Ser	Asn	Glu	Ser 315
Ala	Leu	Pro	His	Val 320	His	Thr	Val	Ser	Tyr 325	Gly	Asp	Asp	Glu	Asp 330
Ser	Leu	Ser	Ser	Ala 335	Tyr	Ile	Gln	Arg	Val 340	Asn	Thr	Glu	Leu	Met 345
Lys	Ala	Ala	Ala	Arg 350	Gly	Leu	Thr	Leu	Leu 355	Phe	Ala	Ser	Gly	Asp 360
Ser	Gly	Ala	Gly	Cys 365	Trp	Ser	Val	Ser	Gly 370	Arg	His	Gln -	Phe	Arg 375
Pro	Thr	Phe	Pro	Ala 380	Ser	Ser	Pro	Tyr	Val 385	Thr	Thr	Val	Gly	Gly 390
Thr	Ser	Phe	Gln	Glu 395	Pro	Phe	Leu	Ile	Thr 400	Asn	Glu	Ile	Val	Asp 405
Tyr	Ile	Ser	Gly	Gly 410	Gly	Phe	Ser	Asn	Val 415	Phe	Pro	Arg	Pro	Ser 420
Tyr	Gln	Glu	Glu	Ala 425	Val	Thr	Lys	Phe	Leu 430	Ser	Ser	Ser	Pro	His 435
Leu	Pro	Pro	Ser	Ser 440	Tyr	Phe	Asn	Ala	Ser 445	Gly	Arg	Ala	Tyr	Pro 450
Asp	Val	Ala	Ala	Leu 455	Ser	Asp	Gly	Tyr	Trp 460	Val	Val	Ser	Asn	Arg 465
Val	Pro	Ile	Pro	Trp 470	Val	Ser	Gly	Thr	Ser 475	Ala	Ser	Thr	Pro	Val 480
Phe	Gly	Gly	Ile	Leu 485	Ser	Leu	Ile	Asn	Glu 490	His	Arg	Ile	Leu	Ser 495
Gly	Arg	Pro	Pro	Leu 500	Gly	Phe	Leu	Asn	Pro 505	Arg	Leu	Tyr	Gln	Gln 510
His	Gly	Ala	Gly	Leu 515	Phe	Asp	Val	Thr	Arg 520	Gly	Cys	His	Glu	Ser 525
Cys	Leu	Asp	Glu	Glu 530	Val	Glu	Gly	Gln	Gly 535	Phe	Cys	Ser	Gly	Pro 540
Gly	Trp	Asp	Pro	Val 545	Thr	Gly	Trp	Gly	Thr 550	Pro	Thr	Ser	Gln	Leu 555

Cys

<210> 260

<211> 1638

<212> DNA

<400> 260

<213> Homo Sapien

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caggcaattt ggtgtatcgc ttctgtgacg tcaaagacga gacctatgac 1000

ttgctctacc agcaatgcga tgcccagcca ggggccagcg ggtctggggt 1050

ctatgtgagg atgtggaaga gacagcagca gaagtgggag cgaaaaatta 1100

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<210> 261

<211> 383

<212> PRT

<213> Homo Sapien

<400> 261

Met Ala Gly Ile Pro Gly Leu Leu Phe Leu Leu Phe Phe Leu Leu
1 5 10 15

Cys Ala Val Gly Gln Val Ser Pro Tyr Ser Ala Pro Trp Lys Pro
20 25 30

Thr Trp Pro Ala Tyr Arg Leu Pro Val Val Leu Pro Gln Ser Thr
35 40 45

Leu Asn Leu Ala Lys Pro Asp Phe Gly Ala Glu Ala Lys Leu Glu
50 55 60

Val Ser Ser Cys Gly Pro Gln Cys His Lys Gly Thr Pro Leu 65 70 75

Pro Thr Tyr Glu Glu Ala Lys Gln Tyr Leu Ser Tyr Glu Thr Leu 80 85 90

Tyr Ala Asn Gly Ser Arg Thr Glu Thr Gln Val Gly Ile Tyr Ile

95 100 105

Leu Ser Ser Ser Gly Asp Gly Ala Gln His Arg Asp Ser Gly Ser 110 115 120

Ser	Gly	Lys	Ser	Arq	Arq	Lys	Arg	Gln	Ile	Tyr	Gly	Tyr	Asp	Ser
	-	-		125		-			130	_	_	_	_	135
Arg	Phe	Ser	Ile	Phe 140	Gly	Lys	Asp	Phe	Leu 145	Leu	Asn	Tyr	Pro	Phe 150
Ser	Thr	Ser	Val	Lys 155	Leu	Ser	Thr	Gly	Cys 160	Thr	Gly	Thr	Leu	Val 165
Ala	Glu	Lys	His	Val 170	Leu	Thr	Ala	Ala	His 175	Cys	Ile	His	Asp	Gly 180
Lys	Thr	Tyr	Val	Lys 185	Gly	Thr	Gln	Lys	Leu 190	Arg	Val	Gly	Phe	Leu 195
Lys	Pro	Lys	Phe	Lys 200	Asp	Gly	Gly	Arg	Gly 205	Ala	Asn	Asp	Ser	Thr 210
Ser	Ala	Met	Pro	Glu 215	Gln	Met	Lys	Phe	Gln 220	Trp	Ile	Arg	Val	Lys 225
Arg	Thr	His	Val	Pro 230	Lys	Gly	Trp	Ile	Lys 235	Gly	Asn	Ala	Asn	Asp 240
Ile	Gly	Met	Asp	Tyr 245	Asp	Tyr	Ala	Leu	Leu 250	Glu	Leu	Lys	Lys	Pro 255
His	Lys	Arg	Lys	Phe 260	Met	Lys	Ile	Gly	Val 265	Ser	Pro	Pro	Ala	Lys 270
Gln	Leu	Pro	Gly	Gly 275	Arg	Ile	His	Phe	Ser 280	Gly	Tyr	Asp	Asn	Asp 285
Arg	Pro	Gly	Asn	Leu 290	Val	Tyr	Arg	Phe	Cys 295	Asp	Val	Lys	Asp	Gl·u 300
Thr	Tyr	Asp	Leu	Leu 305	Tyr	Gln	Gln	Cys	Asp 310	Ala	Gln	Pro	Gly	Ala 315
Ser	Gly	Ser	Gly	Val 320	Tyr	Val	Arg	Met	Trp 325	Lys	Arg	Gln	Gln	Gln 330
Lys	Trp	Glu	Arg	Lys 335	Ile	Ile	Gly	Ile	Phe 340	Ser	Gly	His	Gln	Trp 345
Val	Asp	Met	Asn	Gly 350	Ser	Pro	Gln	Asp	Phe 355	Asn	Val	Ala	Val	Arg 360
Ile	Thr	Pro	Leu	Lys 365	Tyr	Ala	Gln	Ile	Cys 370	Tyr	Trp	Ile	Lys	Gly 375
Asn	Tyr	Leu	Asp	Cys 380	Arg	Glu	Gly							

<210> 262 <211> 1378 <212> DNA

<213> Homo Sapien

<400> 262 gcatcgccct gggtctctcg agcctgctgc ctgctccccc gccccaccag 50 ccatggtggt ttctggagcg cccccagccc tgggtggggg ctgtctcggc 100 accttcacct ccctgctgct gctggcgtcg acagccatcc tcaatgcggc 150 caggatacct gttcccccag cctgtgggaa gccccagcag ctgaaccggg 200 ttgtgggcgg cgaggacagc actgacagcg agtggccctg gatcgtgagc 250 atccagaaga atgggaccca ccactgcgca ggttctctgc tcaccagccg 300 ctgggtgatc actgctgccc actgtttcaa ggacaacctg aacaaaccat 350 acctgttctc tgtgctgctg ggggcctggc agctggggaa ccctggctct 400 cggtcccaga aggtgggtgt tgcctgggtg gagccccacc ctgtgtattc 450 ctggaaggaa ggtgcctgtg cagacattgc cctggtgcgt ctcgagcgct 500 ccatacagtt ctcagagcgg gtcctgccca tctgcctacc tgatgcctct 550 atccacctcc ctccaaacac ccactgctgg atctcaggct gggggagcat 600 ccaaqatgga gttcccttgc cccaccctca gaccctgcag aagctgaagg 650 ttcctatcat cgactcggaa gtctgcagcc atctgtactg gcggggagca 700 ggacagggac ccatcactga ggacatgctg tgtgccggct acttggaggg 750 ggagegggat gettgtetgg gegaeteegg gggeeeeete atgtgeeagg 800 tggacggcgc ctggctgctg gccggcatca tcagctgggg cgagggctgt 850 geogagegea acaggeoegg ggtetacate ageotetetg egeacegete 900 ctgggtggag aagatcgtgc aaggggtgca gctccgcggg cgcgctcagg 950 ggggtgggc cctcagggca ccgagccagg gctctggggc cgccgcgcgc 1000 tectagggeg cagegggaeg egggetegg atetgaaagg eggeeagate 1050 cacatetgga tetggatetg eggeggeete gggeggttte eecegeegta 1100

aataggetea tetaceteta eetetggggg eeeggaegge tgetgeggaa 1150

aggaaacccc ctccccgacc cgcccgacgg cctcaggccc ccctccaagg 1200 catcaggccc cgcccaacgg cctcatgtcc ccgccccac gacttccggc 1250 cccgcccccg ggccccagcg cttttgtgta tataaatgtt aatgatttt 1300 ataggtattt gtaaccctgc ccacatatct tatttattcc tccaatttca 1350 ataaattatt tattctccaa aaaaaaaa 1378

<210> 263

<211> 317

<212> PRT

<213> Homo Sapien.

<400> 263

Met Val Val-Ser Gly Ala Pro Pro Ala Leu Gly Gly Cys Leu 5 Gly Thr Phe Thr Ser Leu Leu Leu Leu Ala Ser Thr Ala Ile Leu 20 25 Asn Ala Ala Arg Ile Pro Val Pro Pro Ala Cys Gly Lys Pro Gln Gln Leu Asn Arg Val Val Gly Glu Asp Ser Thr Asp Ser Glu Trp Pro Trp Ile Val Ser Ile Gln Lys Asn Gly Thr His His Cys Ala Gly Ser Leu Leu Thr Ser Arg Trp Val Ile Thr Ala Ala His Cys Phe Lys Asp Asn Leu Asn Lys Pro Tyr Leu Phe Ser Val Leu 95 Leu Gly Ala Trp Gln Leu Gly Asn Pro Gly Ser Arg Ser Gln Lys Val Gly Val Ala Trp Val Glu Pro His Pro Val Tyr Ser Trp Lys 125 135 Glu Gly Ala Cys Ala Asp Ile Ala Leu Val Arg Leu Glu Arg Ser

Ile Gln Phe Ser Glu Arg Val Leu Pro Ile Cys Leu Pro Asp Ala

Ser Ile His Leu Pro Pro Asn Thr His Cys Trp Ile Ser Gly Trp

170

160

175

180

<211> 24

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Gly Ser Ile Gln Asp Gly Val Pro Leu Pro His Pro Gln Thr Leu
                 185
                                      190
                                                          195
 Gln Lys Leu Lys Val Pro Ile Ile Asp Ser Glu Val Cys Ser His
 Leu Tyr Trp Arg Gly Ala Gly Gln Gly Pro Ile Thr Glu Asp Met
 Leu Cys Ala Gly Tyr Leu Glu Gly Glu Arg Asp Ala Cys Leu Gly
 Asp Ser Gly Gly Pro Leu Met Cys Gln Val Asp Gly Ala Trp Leu
 Leu Ala Gly Ile Ile Ser Trp Gly Glu Gly Cys Ala Glu Arg Asn
                 260
                                                          270
                                      265
 Arg Pro Gly Val Tyr Ile Ser Leu Ser Ala His Arg Ser Trp Val
                                      280
 Glu Lys Ile Val Gln Gly Val Gln Leu Arg Gly Arg Ala Gln Gly
 Gly Gly Ala Leu Arg Ala Pro Ser Gln Gly Ser Gly Ala Ala Ala
                                      310
Arg Ser
<210> 264
<211> 24
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 264
gtccgcaagg atgcctacat gttc 24
<210> 265
<211> 19
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 265
gcagaggtgt ctaaggttg 19
<210> 266
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<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
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<211> 463

<212> PRT

<213> Homo Sapien

<400> 285

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Gln Val Ser Pro Thr Ala Ser Asp Met Leu His Met Arg Trp Asp
50 55 60

Glu Glu Leu Ala Ala Phe Ala Lys Ala Tyr Ala Arg Gln Cys Val 65 70 75

Trp Gly His Asn Lys Glu Arg Gly Arg Arg Gly Glu Asn Leu Phe 80 85 90

Ala Ile Thr Asp Glu Gly Met Asp Val Pro Leu Ala Met Glu Glu
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Trp His His Glu Arg Glu His Tyr Asn Leu Ser Ala Ala Thr Cys
110 115 120

Ser Pro Gly Gln Met Cys Gly His Tyr Thr Gln Val Val Trp Ala 125 130 135

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Glu	Pro	Pro	Gly	Asn 170	Val	Lys	Gly	Lys	Arg 175	Pro	Tyr	Gln	Glu	Gly 180
Thr	Pro	Cys	Ser	Gln 185	Cys	Pro	Ser	Gly	Tyr 190	His	Cys	Lys	Asn	Ser 195
Leu	Cys	Glu	Pro	Ile 200	Gly	Ser	Pro	Glu	Asp 205	Ala	Gln	Asp	Leu	Pro 210
Tyr	Leu	Val	Thr	Glu 215	Ãla	Pro	Ser	Phe	Arg 220	Ala	Thr	Glu	Ala	Ser 225
Asp	Ser	Arg	Lys	Met 230	Gly	Thr	Pro	Ser	Ser 235	Leu	Ala	Thr	Gly	Ile 240
Pro	Ala	Phe	Leu	Val 245	Thr	Glu	Val	Ser	Gly 250	Ser	Leu	Ala	Thr	Lys 255
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Lys	Asp	Pro	Pro	Ser 275	Met	Ala	Thr	Glu	Ala 280	Pro	Pro	Cys	Val	Thr 285
Thr	Glu	Val	Pro	Ser 290	Ile	Leu	Ala	Ala	His 295	Ser	Leu	Pro	Ser	Leu 300
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Pro	Lys	Ser	Ala	Asp 320	Lys	Val	Thr	Asp	Lys 325	Thr	Lys	Val	Pro	Ser 330
Arg	Ser	Pro	Glu	Asn 335	Ser	Leu	Asp	Pro	Lys 340	Met	Ser	Leu	Thr	Gly 345
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Ala	Glu	Leu	Pro	Pro 365	Ser	Ser	Glu	Val	Leu 370	Ala	Ser	Val	Phe	Pro 375
Ala	Gln	Asp	Lys	Pro 380	Gly	Glu	Leu	Gln	Ala 385	Thr	Leu	Asp	His	Thr 390
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<211> 1059

<212> PRT

<213> Homo Sapien

<400> 290

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Val	Leu	Lys	Leu	Asn 140	Arg	Asn	Arg	Ile	Ser 145	Ala	Ile	Pro	Pro	Lys 150
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Asp	Gly	Ala	Phe	Trp 200	Gly	Leu	Ser	Asn	Met 205	Glu	Ile	Leu	Gln	Leu 210
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Phe Thr Gly	Leu Asp 350	Ala Leu	Glu	His	Leu 355	Asp	Leu	Ser	Asp	Asn 360
Ala Ile Met	Ser Leu 365	Gln Gly	Asn	Ala	Phe 370	Ser	Gln	Met	Lys	Lys 375
Leu Gln Gln	Leu His 380	Leu Asn	Thr	Ser	Ser 385	Leu	Leu	Cys	Asp	Cys 390
Gln Leu Lys	Trp Leu 395	Pro Gln	Trp	Val	Ala 400	Glu	Asn	Asn	Phe	Gln 405
Ser Phe Val	Asn Ala 410	Ser Cys	Ala	His	Pro 415	Gln	Leu	Leu	Lys	Gly 420
Arg Ser Ile	Phe Ala 425	Val Ser	Pro	Asp	Gly 430	Phe	Val	Cys	Asp	Asp 435
Phe Pro Lys	Pro Gln 440	Ile Thr	Val	Gln	Pro 445	Glu	Thr	Gln	Ser	Ala 450
Ile Lys Gly	Ser Asn 455	Leu Ser	Phe	Ile	Cys 460	Ser	Ala	Ala	Ser	Ser 465
Ser Asp Ser	Pro Met	Thr Phe	Ala	Trp	Lys	Lys	Asp	Asn	Glu	Leu
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Leu His Asp	Ala Glu 485	Met Glu	Asn	Tyr	Ala 490	His	Leu	Arg	Ala	Gln 495
Gly Gly Glu	Val Met 500	Glu Tyr	Thr	Thr	Ile 505	Leu	Arg	Leu	Arg	Glu 510
Val Glu Phe	Ala Ser 515	Glu Gly	Lys	Tyr	Gln 520	Cys	Val	Ile	Ser	Asn 525
His Phe Gly	Ser Ser 530	Tyr Ser	Val	Lys	Ala 535	Lys	Leu	Thr	Val	Asn 540
Met Leu Pro	Ser Phe 545	Thr Lys	Thr	Pro	Met 550	Asp	Leu	Thr	Ile	Arg 555

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Ala Pro Gln		.a Trp 75	Gln	Lys	Asp	Gly 580	Gly	Thr	Asp	Phe	Pro 585
Ala Ala Arg		rg Arg 90	Met	His	Val	Met 595	Pro	Glu	Asp	Asp	Val 600
Phe Phe Ile		sp Val)5	Lys	Ile	Glu	Asp 610	Ile	Gly	Val	Tyr	Ser 615
Cys Thr Ala		sn Ser 20	Ala	Gly	Ser	Ile 625	Ser	Ala	Asn	Ala	Thr 630
Leu Thr Val		u Thr	Pro	Ser		Leu 640	Arg	Pro	Leu		Asp 645
Arg Thr Val		vs Gly 50	Glu	Thr	Ala	Val 655	Leu	Gln	Cys	Ile	Ala 660
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Pro Leu Val	Val T		Arg	His	Phe	Phe 685	Ala	Ala	Gly	Asn	Gln 690
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Trp Val Val		le Tyr 70	His	Thr	Arg	Arg 775	Arg	Asn	Glu	Asp	Cys 780
Ser Ile Thr	Asn T	ır Asp	Glu	Thr	Asn	Leu	Pro	Ala	Asp	Ile	Pro
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Ser Tyr Leu		er Gln 00	Gly	Thr	Leu	Ala 805	Asp	Arg	Gln	Asp	Gly 810

Tyr Val Ser Ser Glu Ser Gly Ser His His Gln Phe Val Thr Ser 815 820 825 Ser Gly Ala Gly Phe Phe Leu Pro Gln His Asp Ser Ser Gly Thr 830 835 Cys His Ile Asp Asn Ser Ser Glu Ala Asp Val Glu Ala Ala Thr 845 Asp Leu Phe Leu Cys Pro Phe Leu Gly Ser Thr Gly Pro Met Tyr Leu Lys Gly Asn Val Tyr Gly Ser Asp Pro Phe Glu Thr Tyr His Thr Gly Cys Ser Pro Asp Pro Arg Thr Val Leu Met Asp His Tyr 890 895 900 Glu Pro Ser Tyr Ile Lys Lys Lys Glu Cys Tyr Pro Cys Ser His Pro Ser Glu Glu Ser Cys Glu Arg Ser Phe Ser Asn Ile Ser Trp 925 Pro Ser His Val Arg Lys Leu Leu Asn Thr Ser Tyr Ser His Asn 935 Glu Gly Pro Gly Met Lys Asn Leu Cys Leu Asn Lys Ser Ser Leu Asp Phe Ser Ala Asn Pro Glu Pro Ala Ser Val Ala Ser Ser Asn 975 970 965 Ser Phe Met Gly Thr Phe Gly Lys Ala Leu Arg Arg Pro His Leu Asp Ala Tyr Ser Ser Phe Gly Gln Pro Ser Asp Cys Gln Pro Arg 1000 995 Ala Phe Tyr Leu Lys Ala His Ser Ser Pro Asp Leu Asp Ser Gly 1010 1020 Ser Glu Glu Asp Gly Lys Glu Arg Thr Asp Phe Gln Glu Glu Asn 1030 His Ile Cys Thr Phe Lys Gln Thr Leu Glu Asn Tyr Arg Thr Pro 1050 1045 1040 Asn Phe Gln Ser Tyr Asp Leu Asp Thr 1055

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35 40 45

Thr Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val
50 55 60

Ile Cys Val Arg Lys Asn Leu Arg Glu Val Pro Asp Gly Ile Ser 65 70 75

Thr Asn Thr Arg Leu Leu Asn Leu His Glu Asn Gln Ile Gln Ile 80 85 90

Ile Lys Val Asn Ser Phe Lys His Leu Arg His Leu Glu Ile Leu 95 100 105

Gln Leu Ser Arg Asn His Ile Arg Thr Ile Glu Ile Gly Ala Phe 110 115 120

Asn Gly Leu Ala Asn Leu Asn Thr Leu Glu Leu Phe Asp Asn Arg 125 130 135

Leu Thr Thr Ile Pro Asn Gly Ala Phe Val Tyr Leu Ser Lys Leu 140 145 150

Lys Glu Leu Trp Leu Arg Asn Asn Pro Ile Glu Ser Ile Pro Ser

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Leu	Ser	Asn	Leu	Arg 200	Tyr	Leu	Asn	Leu	Ala 205	Met	Cys	Asn	Leu	Arg 210
Glu	Ile	Pro	Asn	Leu 215	Thr	Pro	Leu	Ile	Lys 220	Leu	Asp	Glu	Leu	Asp 225
Leu	Ser	Gly	Asn	His 230	Leu	Ser	Ala	Ile	Arg 235	Pro	Gly	Ser	Phe	Gln 240
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Glu	Ile	Asn	Leu	Ala 275	His	Asn	Asn	Leu	Thr 280	Leu	Leu	Pro	His	Asp 285
Leu	Phe	Thr	Pro	Leu 290	His	His	Leu	Glu	Arg 295	Ile	His	Leu	His	His
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Ile	Lys	Asp	Met	Ala 320	Pro	Ser	Asn	Thr	Ala 325	Cys	Cys	Ala	Arg	Cys 330
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Gly	Thr	Val	Met	Thr 395	His	Gly	Ala	Tyr	Lys 400	Val	Arg	Ile	Ala	Val 405
Leu	Ser	Asp	Gly	Thr	Leu	Asn	Phe	Thr	Asn 415	Val	Thr	Val	Gln	Asp

Thr	Gly	Met	Tyr	Thr 425	Cys	Met	Val	Ser	Asn 430	Ser	Val	Gly	Asn	Thr 435
Thr	Ala	Ser	Ala	Thr 440	Leu	Asn	Val	Thr	Ala 445	Ala	Thr	Thr	Thr	Pro 450
Phe	Ser	Tyr	Phe	Ser 455	Thr	Val	Thr	Val	Glu 460	Thr	Met	Glu	Pro	Ser 465
Gln	Asp	Glu	Ala	Arg 470	Thr	Thr	Asp	Asn	Asn 475	Val	Gly	Pro	Thr	Pro 480
Val	Val	Asp	Trp	Glu 485	Thr	Thr	Asn	Val	Thr 490	Thr	Ser	Leu	Thr	Pro 495
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Arg	Gln	Asn	His	His 560	Ala	Pro	Thr	Arg	Thr 565	Val	Glu	Ile	Ile	Asn 570
Val	Asp	Asp	Glu	Ile 575	Thr	Gly	Asp	Thr	Pro 580	Met	Glu	Ser	His	Leu 585
Pro	Met	Pro	Ala	Ile 590	Glu	His	Glu	His	Leu 595	Asn	His	Tyr	Asn	Ser 600
Tyr	Lys	Ser	Pro	Phe 605	Asn	His	Thr	Thr	Thr 610	Val	Asn	Thr	Ile	Asn 615
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Pro Cys Pro Thr Thr Cys Arg Cys Leu Gly Asp Leu Leu Asp Cys 50 55 60

Ser Arg Lys Arg Leu Ala Arg Leu Pro Glu Pro Leu Pro Ser Trp
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Val Ala Arg Leu Asp Leu Ser His Asn Arg Leu Ser Phe Ile Lys 80 85 90

Ala Ser Ser Met Ser His Leu Gln Ser Leu Arg Glu Val Lys Leu
95 100 105

Asn Asn Asn Glu Leu Glu Thr Ile Pro Asn Leu Gly Pro Val Ser 110 115 120

Ala Asn Ile Thr Leu Leu Ser Leu Ala Gly Asn Arg Ile Val Glu 125 130 135

Ile Leu Pro Glu His Leu Lys Glu Phe Gln Ser Leu Glu Thr Leu
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Asp Leu Ser Ser Asn Asn Ile Ser Glu Leu Gln Thr Ala Phe Pro 155 160 165

Ala Leu Gln Leu Lys Tyr Leu Tyr Leu Asn Ser Asn Arg Val Thr 170 175 180

Ser Met Glu Pro Gly Tyr Phe Asp Asn Leu Ala Asn Thr Leu Leu 185 190 195

Val Leu Lys Leu Asn Arg Asn Arg Ile Ser Ala Ile Pro Pro Lys 200 205 210

Met Phe Lys Leu Pro Gln Leu Gln His Leu Glu Leu Asn Arg Asn

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35 40 45

Trp Gly Trp Ala Arg Gln Ser Trp Gly Gln Cys Gln Pro Val Cys
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Gln Pro Arg Cys Lys His Gly Glu Cys Ile Gly Pro Asn Lys Cys
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Lys Cys His Pro Gly Tyr Ala Gly Lys Thr Cys Asn Gln Asp Leu 80 85 90

Asn Glu Cys Gly Leu Lys Pro Arg Pro Cys Lys His Arg Cys Met

95 100 105

Asn Thr Tyr Gly Ser Tyr Lys Cys Tyr Cys Leu Asn Gly Tyr Met 110 115 120

Leu Met Pro Asp Gly Ser Cys Ser Ser Ala Leu Thr Cys Ser Met
125 130 135

Ala Asn Cys Gln Tyr Gly Cys Asp Val Val Lys Gly Gln Ile Arg 140 145 150

Cys Gln Cys Pro Ser Pro Gly Leu His Leu Ala Pro Asp Gly Arg 155 160 165

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Pro	Arg	Phe	Arg	Gln 185	Cys	Val	Asn	Thr	Phe 190	Gly	Ser	Tyr	Ile	Cys 195
Lys	Cys	His	Lys	Gly 200	Phe	Asp	Leu	Met	Tyr 205	Ile	Gly	Gly	Lys	Tyr 210
Gln	Cys	His	Asp	Ile 215	Asp	Glu	Cys	Ser	Leu 220	Gly	Gln	Tyr	Gln	Cys 225
Ser	Ser	Phe	Ala	Arg 230	Cys	Tyr	Asn	Val	Arg 235	Gly	Ser	Tyr	Lys	Cys 240
Lys	Cys	Lys	Glu	Gly 245	Tyr	Gln	Gly	Asp	Gly 250	Leu	Thr	Cys	Val	Tyr 255
Ile	Pro	Lys	Val	Met 260	Ile	Glu	Pro	Ser	Gly 265	Pro	Ile	His	Val	Pro 270
Lys	Gly	Asn	Gly	Thr 275	Ile	Leu	Lys	Gly	Asp 280	Thr	Gly	Asn	Asn	Asn 285
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Tyr	Ile	Pro	Pro	Ile 305	Ile	Thr	Asn	Arg	Pro 310	Thr	Ser	Lys	Pro	Thr 315
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His	Ser	Cys	Asn	Phe 395	Asp	His	Gly	Leu	Cys 400	Gly	Trp	Ile	Arg	Glu 405
Lys	Asp	Asn	Asp	Leu 410	His	Trp	Glu	Pro	Ile 415	Arg	Asp	Pro	Ala	Gly 420
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Gly 1	Thr Leu	Gln	Val 470	Phe	Val	Arg	Lys	His 475	Gly	Ala	His	Gly	Ala 480	
Ala I	Leu Trp	Gly	Arg 485	Asn	Gly	Gly	His	Gly 490	Trp	Arg	Gln	Thr	Gln 495	
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Phe Asp Cys	Ser Ala 260		Ser 1	His	Pro	Pro 265	Asn	Thr	Tyr	Ser	Trp 270
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Tyr Val Cys	Cys Ala 305		Asn .	Asn	Ile	Thr 310	Gly	Arg	Gln	Asp	Glu 315
Thr His Phe	Thr Val	Ile :	Ile '	Thr	Ser	Val	Gly	Leu	Glu	Lys	Leu

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Ala	Gln	Lys	Gly	Lys 335	Ser	Leu	Ser	Pro	Leu 340	Ala	Ser	Ile	Thr	Gly 345
Ile	Ser	Leu	Phe	Leu 350	Ile	Ile	Ser	Met	Cys 355	Leu	Leu	Phe	Leu	Trp 360
Lys	Lys	Tyr	Gln	Pro 365	Tyr	Lys	Val	Ile	Lys 370	Gln	Lys	Leu	Glu	Gly 375
Arg	Pro	Glu	Thr	Glu 380	Tyr	Arg	Lys	Ala	Gln 385	Thr	Phe	Ser	Gly	His 390
Glu	Asp	Ala	Leu	Asp 395	Asp	Phe	Gly	Ile	Tyr 400	Glu	Phe	Val	Ala	Phe 405
Pro	Asp	Val	Ser	Gly 410	Val	Ser	Arg	Ile	Pro 415	Ser	Arg	Ser	Val	Pro 420
Ala	Ser	Asp	Cys	Val 425	Ser	Gly	Gln	Asp	Leu 430	His	Ser	Thr	Val	Tyr 435
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cctagttaaa ttttatagtt atcttaatat tatgattttg ataaaaacag 900

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<211> 280

<212> PRT

<213> Homo Sapien

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Val Arg Val Ile Thr Asp Glu Asn Trp Arg Glu Leu Leu Glu Gly
35 45

Asp Trp Met Ile Glu Phe Tyr Ala Pro Trp Cys Pro Ala Cys Gln
50 55 60

Asn Leu Gln Pro Glu Trp Glu Ser Phe Ala Glu Trp Gly Glu Asp
65 70 75

Leu Glu Val Asn Ile Ala Lys Val Asp Val Thr Glu Gln Pro Gly
80 85 90

Leu Ser Gly Arg Phe Ile Ile Thr Ala Leu Pro Thr Ile Tyr His
95 100 105

Cys Lys Asp Gly Glu Phe Arg Arg Tyr Gln Gly Pro Arg Thr Lys 110 115 120

Lys Asp Phe Ile Asn Phe Ile Ser Asp Lys Glu Trp Lys Ser Ile 125 130 135

Glu Pro Val Ser Ser Trp Phe Gly Pro Gly Ser Val Leu Met Ser 140 145 150

Ser Met Ser Ala Leu Phe Gln Leu Ser Met Trp Ile Arg Thr Cys 155 160 165

His Asn Tyr Phe Ile Glu Asp Leu Gly Leu Pro Val Trp Gly Ser 170 175 180

Tyr Thr Val Phe Ala Leu Ala Thr Leu Phe Ser Gly Leu Leu Leu 185 190 195

Gly Leu Cys Met Ile Phe Val Ala Asp Cys Leu Cys Pro Ser Lys 200 205 210

Arg Arg Pro Gln Pro Tyr Pro Tyr Pro Ser Lys Lys Leu Leu

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Ser (Glu	Ser	Ala	Gln 230	Pro	Leu	Lys	Lys	Val 235	Glu	Glu	Glu	Gln	Glu 240
Ala A	Asp	Glu	Glu	Asp 245	Val	Ser	Glu	Glu	Glu 250	Ala	Glu	Ser	Lys	Glu 255
Gly 7	Thr	Asn	Lys	Asp 260	Phe	Pro	Gln	Asn	Ala 265	Ile	Arg	Gln	Arg	Ser 270
Leu (Gly	Pro	Ser	Leu 275	Ala	Thr	Asp	Lys	Ser 280					
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(223)	Syli	CHEC	.10 (Jiig	Jiiuc I	Leoc.	iue i	TODE	5					
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<212> PRT

<213> Homo Sapien

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Thr Asp Leu Ile Tyr Ala Glu Lys Glu Leu Val Gln Ser Leu Lys 35 40 45

Glu Tyr Ile Leu Val Glu Glu Ala Lys Leu Ser Lys Ile Lys Ser
50 55 60

Trp Ala Asn Lys Met Glu Ala Leu Thr Ser Lys Ser Ala Ala Asp
65 70 75

Ala Glu Gly Tyr Leu Ala His Pro Val Asn Ala Tyr Lys Leu Val 80 85 90

Lys Arg Leu Asn Thr Asp Trp Pro Ala Leu Glu Asp Leu Val Leu
95 100 105

Gln Asp Ser Ala Ala Gly Phe Ile Ala Asn Leu Ser Val Gln Arg 110 115 120

Gln Phe Phe Pro Thr Asp Glu Asp Glu Ile Gly Ala Ala Lys Ala 125 130 135

Leu Met Arg Leu Gln Asp Thr Tyr Arg Leu Asp Pro Gly Thr Ile 140 145 150

Ser Arg Gly Glu Leu Pro Gly Thr Lys Tyr Gln Ala Met Leu Ser 155 160 165

Val Asp Asp Cys Phe Gly Met Gly Arg Ser Ala Tyr Asn Glu Gly
170 175 180

Asp Tyr Tyr His Thr Val Leu Trp Met Glu Gln Val Leu Lys Gln
185 190 195

Leu Asp Ala Gly Glu Glu Ala Thr Thr Thr Lys Ser Gln Val Leu 200 205 210

Asp	Tyr	Leu	Ser	Tyr 215	Ala	Val	Phe	Gln	Leu 220	Gly	Asp	Leu	His	Arg 225
Ala	Leu	Glu	Leu	Thr 230	Arg	Arg	Leu	Leu	Ser 235	Leu	Asp	Pro	Ser	His 240
Glu	Arg	Ala	Gly	Gly 245	Asn	Leu	Arg	Tyr	Phe 250	Glu	Gln	Leu	Leu	Glu 255
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Ala	Thr	Pro	Glu	Gly 275	Ile	Tyr	Glu	Arg	Pro 280	Val	Asp	Tyr	Leu	Pro 285
Glu	Arg	Asp	Val	Tyr 290	Glu	Ser	Leu	Суѕ	Arg 295	Gly	Glu	Gly	Val	Lys 300
Leu	Thr	Pro	Arg	Arg 305	Gln	Lys	Arg	Leu	Phe 310	Cys	Arg	Tyr	His	His 315
Gly	Asn	Arg	Ala	Pro 320	Gln	Leu	Leu	Ile	Ala 325	Pro	Phe	Lys	Glu	Glu 330
Asp	Glu	Trp	Asp	Ser 335	Pro	His	Ile	Val	Arg 340	Tyr	Tyr	Asp	Val	Met 345
Ser	Asp	Glu	Glu	11e 350	Glu	Arg	Ile	Lys	Glu 355	Ile	Ala	Lys	Pro	Lys 360
Leu	Ala	Arg	Ala	Thr 365	Val	Arg	Asp	Pro	Lys 370	Thr	Gly	Val	Leu	Thr 375
Val	Ala	Ser	Tyr	Arg 380	Val	Ser	Lys	Ser	Ser 385	Trp	Leu	Glu	Glu	Asp 390
Asp	Asp	Pro	Val	Val 395	Ala	Arg	Val	Asn	Arg 400	Arg	Met	Gln	His	Ile 405
Thr	Gly	Leu	Thr	Val 410	Lys	Thr	Ala	Glu	Leu 415	Leu	Gln	Val	Ala	Asn 420
Tyr	Gly	Val	Gly	Gly 425	Gln	Tyr	Glu	Pro	His 430	Phe	Asp	Phe	Ser	Arg 435
Arg	Pro	Phe	Asp	Ser 440	Gly	Leu	Lys	Thr	Glu 445	Gly	Asn	Arg	Leu	Ala 450
Thr	Phe	Leu	Asn	Tyr 455	Met	Ser	Asp	Val	Glu 460	Ala	Gly	Gly	Ala	Thr 465
Val	Phe	Pro	Asp	Leu 470	Gly	Ala	Ala	Ile	Trp 475	Pro	Lys	Lys	Gly	Thr 480

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Arg Thr Arg His Ala Ala Cys Pro Val Leu Val Gly Cys Lys Trp
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<211> 772

<212> PRT

<213> Homo Sapien

<400> 339

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Val Gly Glu Arg Gly Gly Pro Gln Asn Pro Asp Ser Arg Ala Arg
50 55 60

Leu Asp Gln Ser Asp Glu Asp Phe Lys Pro Arg Ile Val Pro Tyr
65 70 75

Tyr Arg Asp Pro Asn Lys Pro Tyr Lys Lys Val Leu Arg Thr Arg 80 85 90

Tyr Ile Gln Thr Glu Leu Gly Ser Arg Glu Arg Leu Leu Val Ala

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His	Gly	Asp	Glu	Arg 155	Pro	Ala	Trp	Leu	Met 160	Ser	Glu	Thr	Leu	Arg 165
His	Leu	His	Thr	His 170	Phe	Gly	Ala	Asp	Tyr 175	Asp	Trp	Phe	Phe	Ile 180
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Ala	Gly	His	Leu	Ser 200	Ile	Asn	Gln	Asp	Leu 205	Tyr	Leu	Gly	Arg	Ala 210
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Ser	Ala	Phe	Ala	Val 305	His	Pro	Val	Ser	Glu 310	Gly	Thr	Leu	Met	Tyr 315
Arg	Leu	His	Lys	Arg 320	Phe	Ser	Ala	Leu	Glu 325	Leu	Glu	Arg	Ala	Туг 330
Ser	Glu	Ile	Glu	Gln 335	Leu	Gln	Ala	Gln	Ile 340	Arg	Asn	Leu	Thr	Val 345
Leu	Thr	Pro	Glu	Gly 350	Glu	Ala	Gly	Leu	Ser 355	Trp	Pro	Val	Gly	Leu 360

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Asp	Tyr	Phe	Thr	Glu 380	Gln	His	Thr	Phe	Ser 385	Cys	Ala	Asp	Gly	Ala 390
Pro	Lys	Cys	Pro	Leu 395	Gln	Gly	Ala	Ser	Arg 400	Ala	Asp	Val	Gly	Asp 405
Ala	Leu	Glu	Thr	Ala 410	Leu	Glu	Gln	Leu	Asn 415	Arg	Arg	Tyr	Gln	Pro 420
Arg	Leu	Arg	Phe	Gln 425	Lys	Gln	Arg	Leu	Leu 430	Asn	Gly	Tyr	Arg	Arg 435
Phe	Asp	Pro	Ala	Arg 440	Gly	Met	Glu	Tyr	Thr 445	Leu	Asp	Leu	Leu	Leu 450
Glu	Cys	Val	Thr	Gln 455	Arg	Gly	His	Arg	Arg 460	Ala	Leu	Ala	Arg	Arg 465
Val	Ser	Leu	Leu	Arg 470	Pro	Leu	Ser	Arg	Val 475	Glu	Ile	Leu	Pro	Met 480
Pro	Tyr	Val	Thr	Glu 485	Ala	Thr	Arg	Val	Gln 490	Leu	Val	Leu	Pro	Leu 495
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Gly	Gly	Arg	Phe	Asp 665	Arg	Gln	Ala	Ser	Ala 670	Glu	Gly	Cys	Phe	Tyr 675
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Ala	Gly	Gln	Glu	Glu 695	Glu	Glu	Ala	Leu	Glu 700	Gly	Leu	Glu	Val	Met 705
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Arg	Leu	Ser	Glu	Glu 740	Leu	Tyr	His	Arg	Cys 745	Arg	Leu	Ser	Asn	Leu 750
Glu	Gly	Leu	Gly	Gly 755	Arg	Ala	Gln	Leu	Ala 760	Met	Ala	Leu	Phe	Glu 765
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tgetaggaca eattaggatt ggteatggaa atagaatgea eeaccatgag 200
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accaaacact gtgacaaage agagttette agttetgaaa atgttaaagt 400

gtttgagtca attaatatgg acacaaatga catgtggtta atgatgagaa 450 aagettacaa atacgeettt gataagtata gagaccaata caactggtte 500 ttccttgcac gccccactac gtttgctatc attgaaaacc taaagtattt 550 tttgttaaaa aaggatccat cacagccttt ctatctaggc cacactataa 600 aatctggaga ccttgaatat gtgggtatgg aaggaggaat tgtcttaagt 650 gtagaatcaa tgaaaagact taacagcctt ctcaatatcc cagaaaagtg 700 tcctgaacag ggagggatga tttggaagat atctgaagat aaacagctag 750 cagtttgcct gaaatatgct ggagtatttg cagaaaatgc agaagatgct 800 gatggaaaag atgtatttaa taccaaatct gttgggcttt ctattaaaga 850 ggcaatgact tatcacccca accaggtagt agaaggctgt tgttcagata 900 tggctgttac ttttaatgga ctgactccaa atcagatgca tgtgatgatg 950 tatggggtat accgccttag ggcatttggg catattttca atgatgcatt 1000 ggttttctta cctccaaatg gttctgacaa tgactgagaa gtggtagaaa 1050 agcgtgaata tgatctttgt ataggacgtg tgttgtcatt atttgtagta 1100 gtaactacat atccaataca gctgtatgtt tctttttctt ttctaatttg 1150 gtggcactgg tataaccaca cattaaagtc agtagtacat ttttaaatga 1200 gggtggtttt tttctttaaa acacatgaac attgtaaatg tgttggaaag 1250 aagtgtttta agaataataa ttttgcaaat aaactattaa taaatattat 1300 atgtgataaa ttctaaatta tgaacattag aaatctgtgg ggcacatatt 1350 tttgctgatt ggttaaaaaa ttttaacagg tctttagcgt tctaagatat 1400 gcaaatgata tctctagttg tgaatttgtg attaaagtaa aacttttagc 1450 tgtgtgttcc ctttacttct aatactgatt tatgttctaa gcctccccaa 1500 gttccaatgg atttgccttc tcaaaatgta caactaagca actaaagaaa 1550 attaaagtga aagttgaaaa at 1572

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Ala	Pro	Asn	Lys	Glu 50	Asp	Ile	Leu	Lys	Ile 55	Ser	Glu	Asp	Glu	Arg 60
Met	Glu	Leu	Ser	Lys 65	Ser	Phe	Arg	Val	Tyr 70	Cys	Ile	Ile	Leu	Val 75
Lys	Pro	Lys	Asp	Val 80	Ser	Leu	Trp	Ala	Ala 85	Val	Lys	Glu	Thr	Trp 90
Thr	Lys	His	Сув	Asp 95	Lys	Ala	Glu	Phe	Phe 100	Ser	Ser	Glu	Asn	Val 105
Lys	Val	Phe	Glu	Ser 110	Ile	Asn	Met	Asp	Thr 115	Asn	Asp	Met	Trp	Leu 120
Met	Met	Arg	Lys	Ala 125	Tyr	Lys	Tyr	Ala	Phe 130	Asp	Lys	Tyr	Arg	Asp 135
Gln	Tyr	Asn	Trp	Phe 140	Phe	Leu	Ala	Arg	Pro 145	Thr	Thr	Phe	Ala	Ile 150
Ile	Glu	Asn	Leu	Lys 155	Tyr	Phe	Leu	Leu	Lys 160	Lys	Asp	Pro	Ser	Gln 165
Pro	Phe	Tyr	Leu	Gly 170	His	Thr	Ile	Lys	Ser 175	Gly	Asp	Leu	Glu	Tyr 180
Val	Gly	Met	Glu	Gly 185	Gly	Ile	Val	Leu	Ser 190	Val	Glu	Ser	Met	Lys 195
Arg	Leu	Asn	Ser	Leu 200	Leu	Asn	Ile	Pro	Glu 205	Lys	Cys	Pro	Glu	Gln 210
Gly	Gly	Met	Ile	Trp 215	Lys	Ile	Ser	Glu	Asp 220	Lys	Gln	Leu	Ala	Val 225
Суѕ	Leu	Lys	Tyr	Ala 230	Gly	Val	Phe	Ala	Glu 235	Asn	Ala	Glu	Asp	Ala 240
Asp	Gly	Lys	Asp	Val 245	Phe	Asn	Thr	Lys	Ser 250	Val	Gly	Leu	Ser	Ile 255
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 20 25 30
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 35 40 45
- Phe Arg Ile Phe Gln Thr Cys Asp Glu Lys Lys Phe Gln Leu Pro 50 55 60
- Glu Asn Phe Thr Glu Leu Ser Cys Tyr Asn Tyr Gly Ser Gly Ser 65 70 75
- Val Lys Asn Cys Cys Pro Leu Asn Trp Glu Tyr Phe Gln Ser Ser 80 85 90
- Cys Tyr Phe Phe Ser Thr Asp Thr Ile Ser Trp Ala Leu Ser Leu
 95 100 105
- Lys Asn Cys Ser Ala Met Gly Ala His Leu Val Val Ile Asn Ser 110 115 120
- Gln Glu Glu Glu Phe Leu Ser Tyr Lys Lys Pro Lys Met Arg
 125 130 135
- Glu Phe Phe Ile Gly Leu Ser Asp Gln Val Val Glu Gly Gln Trp
 140 145 150
- Gln Trp Val Asp Gly Thr Pro Leu Thr Lys Ser Leu Ser Phe Trp
 155 160 165
- Asp Val Gly Glu Pro Asn Asn Ile Ala Thr Leu Glu Asp Cys Ala 170 175 180

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Ala Val Asn Leu Lys Ser Ser Asn Arg Thr Pro Val Val Gln Glu

Phe Glu Ser Val Glu Leu Ser Cys Ile Ile Thr Asp Ser Gln Thr

Ser Asp Pro Arg Ile Glu Trp Lys Lys Ile Gln Asp Glu Gln Thr

Thr Tyr Val Phe Phe Asp Asn Lys Ile Gln Gly Asp Leu Ala Gly

Arg Ala Glu Ile Leu Gly Lys Thr Ser Leu Lys Ile Trp Asn Val

Thr Arg Arg Asp Ser Ala Leu Tyr Arg Cys Glu Val Val Ala Arg 115

Asn Asp Arg Lys Glu Ile Asp Glu Ile Val Ile Glu Leu Thr Val 135

Gln Val Lys Pro Val Thr Pro Val Cys Arg Val Pro Lys Ala Val

Pro Val Gly Lys Met Ala Thr Leu His Cys Gln Glu Ser Glu Gly 155 160 165

His Pro Arg Pro His Tyr Ser Trp Tyr Arg Asn Asp Val Pro Leu 175 170

Pro Thr Asp Ser Arg Ala Asn Pro Arg Phe Arg Asn Ser Ser Phe 185 190

His	Leu	Asn	Ser	Glu 200	Thr	Gly	Thr	Leu	Val 205	Phe	Thr	Ala	Val	His 210
Lys	Asp	Asp	Ser	Gly 215	Gln	Tyr	Tyr	Cys	Ile 220	Ala	Ser	Asn	Asp	Ala 225
Gly	Ser	Ala	Arg	Cys 230	Glu	Glu	Gln	Glu	Met 235	Glu	Val	Tyr	Asp	Leu 240
Asn	Ile	Gly	Gly	Ile 245	Ile	Gly	Gly	Val	Leu 250	Val	Val	Leu	Ala	Val 255
Leu	Ala	Leu	Ile	Thr 260	Leu	Gly	Ile	Cys	Cys 265	Ala	Tyr	Arg	Arg	Gly 270
Tyr	Phe	Ile	Asn	Asn	Lys	Gln	Asp	Gly	Glu	Ser	Tyr	Lys	Asn	Pro
				275					280					285
Gly	Lys	Pro	Asp	Gly 290	Val	Asn	Tyr	Ile	Arg 295	Thr	Asp	Glu	Glu	Gly 300
Asp	Phe	Arg	His	Lys 305	Ser	Ser	Phe	Val	Ile 310					

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